Lake Street Teen Center

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LAKE STREET TEEN CENTER

A Design Thesis Submitted to the Department of Architecture
and Landscape Architecture of North Dakota State University

By

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In Partial Fulfillment of the Requirements for the Degree of Master of Architecture

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Thesis Committee Chair

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Contents

Tables & Figures

thesis abstract

The Lake Street Teen Center addresses the question how can design positively impact a place susceptible to delinquent behavior? The Typology for the investigation of this problem is a center for teens. The Theoretical Premise/Unifying idea which ushers the research is "Architectural design can create healthy environments to promote good behavior." The site for the project is located in Minneapolis, Minnesota. The square footage for the building is 8,554 square feet. By combining qualitative and quantitative data the Mixed Method research approach was used to examine the theoretical premise, unifying idea, and problem statement.

key words:

adolescents
healthy environment
delinquent behavior
teen center
Minneapolis

problem statement

How can design positively impact a place susceptible to delinquent behavior?

statement of intent

project typology
Center for Teens

site
Minneapolis, Minnesota

claim

With good design, architecture has the potential to change negative actions on a site.

Actors - Teens/ Negative behavior

Action - Intervention through architecture.

Object - The quality of the Environment

Teens need a different way to release energy in a positive way that helps them feel part of the community.

Intervention through architecture on a site can decrease delinquent behavior and improve the quality of life.

If the quality of the environment is improved negative behaviors will decrease. "By tapping the potential that surrounds us in many forms, we can band together to create an environment that supports all youth to become healthy productive engaged adults." (London, 2011).

unifying idea

Architectural design has the potential to create healthy environments to promote good behavior.

project justification

Teens need environments that promote healthy behaviors without scrutiny.

Teens need activities where they feel part of something bigger than him or herself, a part of the community.

Delinquent behavior in cities has become a large issue and if there was a place to release negative energy in a positive way crime rates could be reduced.

proposal

narrative

Adolescents are increasingly involving themselves in activities that are detrimental to his or her health. They are engaging in drug use and fighting instead of embracing his or her teenage years.

The area where the site is chosen is undergoing renovations. Recently Lake Street Midtown light rail station was constructed adding a new type of transportation. In addition to the new rail station and number of elements are in play. Hiawatha Avenue and Lake street are major roads, South High school is nearby and the Greenway bicycle path serves the area. Because of the new light rail station school buses will no longer be serving South High school, and this is causing issues. Students are cross-cutting through properties in order to get to city bus stops, rail station and bike path. After school hours this is especially an is because there is increased delinquent behavior.

I believe if there is a place where teenagers can productivity retreat to after school hours, the negative behaviors could decrease. A place where they have the potential to feel part of something larger and a safe environment would benefit the area and in turn make all ages feel like it is a safe community.

user/ client description

owner:

The owner will be one with the best interest of adolescents in mind such as an association.

guests:

Teenagers will be the primary guests of the space, but it is a space that is friendly for all ages.

workers:

Workers that will be involved with the building will be art instructors, receptionist, custodial staff, and sports center managers.

project elements

arts center:

The arts center will have a few classrooms where classes in drawing, painting, and ceramics will be offered.

-Drawing & Painting Room
-Ceramics Room
-Kiln Room
-Storage

rock climbing wall:

The gym will have full size basketball courts for pick-up games, badminton or volleyball.

-Storage
-Rock Climbing Wall

multi-use space:

The multi-use space will be a flexible space offering numerous functions.

-Bleachers
-Study Area
-Bookcases
-Seating

reception & lounge:

The reception and lounge will be the main entrance to the building with other functions occurring in the space as well.

-Receptionist Desk
-Computer Cluster
-Media Zone

site information

Mid-West Region

The site is located in the upper-mid west region of the United States. The region experiences dramatic hot and cold swings over the four seasons.

Region Map
Figure 1 K. Mueller [Graphic]

Minnesota
Figure 2 K. Mueller [Graphic]

Minneapolis, Minnesota

While Minnesota is filled with lake country and back woods, Minneapolis is the largest municipality in the state. Found within the city is a vast population with numerous cultures.

thesis site

On the chosen site a parking lot and building to the north-east corner exists. The building is the Southdale Adult Education Center. The site is on the corner of Hiawatha Avenue and East Lake Street. The Greenway bicycle path runs along Hiawatha

Avenue and South High school is to the southwest of the site. A new light rail station is located at the intersection of East Lake Street and Hiawatha Avenue. The site is an ideal location central to all transportation modes.

School buses no longer serve South High School so all other modes of transportation are used by students. Cross-cutting of students on properties in the vicinity of the site are causing issues after school hours.

Figure 3 Courtesy Google Maps

Figure 4 Courtesy Google Maps

Figure 5 Courtesy Google Maps

Figure 6 Courtesy Google Maps

Site Map
Figure 7 K. Mueller [Graphic]

project emphasis

The emphasis of this project is to understand the way adolescents interact with his or her built environment and how architectural design could improve it. This project will propose how to make an unsafe area safe through design conventions such as spacial organization, visibility and a strong building program.

Through the study of teenagers, environments and how they socially relate, a better understanding will be revealed for what is necessary for a teen center and a safe environment.

plan for proceeding

Research Direction

Research will be conducted to create a larger understanding for the unifying idea, project typology through case studies, and site. Research through case studies will aide in the understand what a teen center is.

An analysis of environment and behavior is necessary to understand the way one interacts with built surroundings. An in-depth site investigation is required to understand the context of the area in order to propose a possible design intervention.

The emphasis of the design requires that research be conducted in the area of sociology and teenagers, particularly of those residing in cities. Qualitative and quantitative investigations will create the conclusion of what a teenager is today.

Design Methodology

The design methodology that I will be using is qualitative and quantitative research.

Quantitative research pertains to statistics and scientific data while qualitative research involves personal interviews and first-hand observations. The analyzing of the collected research will be presented through graphics, models, and text.

Project Documentation

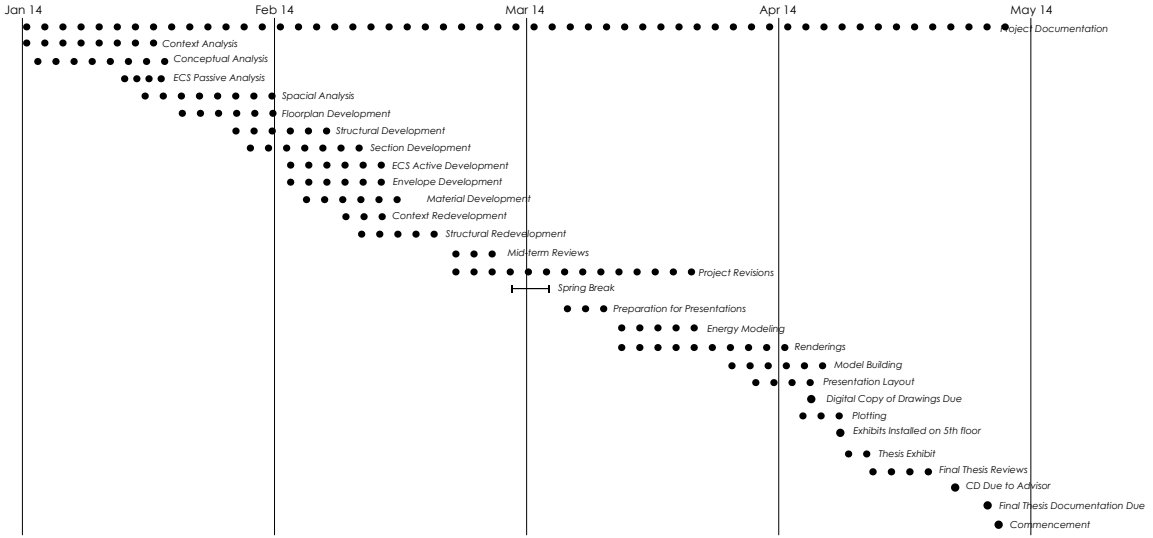
In order to conserve the design process, the means of documentation are as follows:

- -Sketches
- -Physical Models
- -Digital Models
- -Diagrams
- -Journal
- -Oral Presentation
- -Boards

Documentation will be in digital and physical form that is organized in a binder that is easily accessible for review and analysis. A review and compilation of materials will occur biweekly.

schedule for spring semester

Project Documentation	89 days	1/14/14 - 5/16/14
Context Analysis	14 days	1/14/14 - 1/31/14
Conceptual Analysis	12 days	1/16/14 - 1/31/14
ECS Passive Analysis	5 days	1/27/14 - 1/31/14
Spacial Analysis	13 days	1/29/14 - 2/14/14
Floorplan Development	10 days	2/3/14 - 2/14/14
Structural Development	10 days	2/10/14 - 2/21/14
Section Development	11 days	2/12/14 - 2/26/14
ECS Active Development	10 days	2/17/14 - 2/28/14
Envelope Development	10 days	2/17/14 - 2/28/14
Materials Development	10 days	2/19/14 - 3/4/14
Context Redevelopment	5 days	2/24/14 - 2/28/14
Structural Redevelopment	8 days	2/26/14 - 3/7/14
Mid-Term Reviews	5 days	3/10/14 - 3/14/14
Project Revisions	23 days	3/10/14 - 4/9/14
Spring Break	5 days	3/17/14 - 3/21/14
Preparations for Presentations	5 days	3/24/14 - 3/28/14
Energy Modeling	8 days	3/31/14 - 4/9/14
Renderings	16 days	3/31/14 - 4/21/14
Model Building	10 days	4/14/14 - 4/25/14
Presentation Layout	6 days	4/17/14 - 4/24/14
Plotting	4 days	4/23/14 - 4/27/14
Digital Copy of Thesis Drawings Due	0 days	4/24/14 - 4/24/14
Exhibits Installed on 5th Floor	0 days	4/28/14 - 4/28/14
Thesis Exhibit	3 days	4/28/14 - 4/30/14
Final Thesis Reviews	6 days	5/1/14 - 5/8/14
CD Due to Thesis Advisor	0 days	5/12/14 - 5/12/14
Final Thesis Documentation Due	0 days	5/16/14 - 5/16/14
Commencement	0 days	5/17/14 - 5/17/14



Schedule
Figure 8 K. Mueller [Graphic]

previous studio experience

ARCH 271 - fall 2010

Daryll Booker

Tea House
Boat House

ARCH 272 - spring 2011

Joan Vorderbruggen

Montessori School
Bird House
Dwelling

ARCH 371 - fall 2011

Regin Schwaen

Zombie Safe House Competition
Snow Symposium
Artist in Residence

ARCH 372 - spring 2012

Rhet Fiskness

Presidential Library
Visual Arts School

ARCH 471 - fall 2012

Cindy Urness

High Rise
DLR Competition

ARCH 472- spring 2013

Paul Gleye

Kempen Island - Urban Design

ARCH 771 - fall 2013

Mike Christenson

Parasite

research results

unifying idea

Architectural design has the potential to create healthy environments to promote good behavior.

architecture and behavior

When discussing the topic of architectural design having the potential to create healthy environments sometimes designers get lost in the idea. Architects believe that if a building is created people are going to use it. Yes people will use a building and yes it may have a good design but there are underlying conditions that should be thought about. How often do designers put him or herself in the shoes of people who are going to be using the building? Typically the extent of a thinking how a building will be socially used can be summed up in three words: community, privacy, and circulation (Gutman 1976). The questions that an architect ponders when designing a building would be very different from what a sociologist would ponder, but why should it vary so much? If a building has a social function or purpose maybe designers should play the role of a sociologist in the beginning of design.

Sociologists say the building is not regarded as

a significant determinant of behavior and social forms rather than built forms are look upon as the elements of culture that have a significant role to play in the process of change (Gutman 1976). So it may seem that the building is not important for creating a healthy environment or influencing behaviors, but that is not an entirely true statement.

A building is an important place and inside of it are rooms that serve different functions and as a designer that is what is controlled. According to Robert Gutman there are five functions of the built environment: Ambiance, amenities, communication net, symbol, and architectonic space. The design and organization of space in a lecture hall is going to vary with a classroom. Designers intend to compose an environment to generate distinct emotions but in the end the composition cannot dictate that the intentions will be met (Gutman 1976). The previous statement does not mean that the architect did a horrible job in designing, there are other elements thrown into the mix – social, cultural, and psychological. Buildings should be thought of as an environment that is enabling instead of one that is a determinant of behavior.

With all of this in mind taking an approach through understanding what teenagers are, the context of the environment and his or her behaviors I can propose a possible solution to a teen center.

today's teenager

Teens are stuck in an awkward world in-between childhood and adulthood. The age range of adolescents [in the context of this research] is from thirteen to eighteen years old. The public commonly thinks that these people are a burden to society and that they are always up to no good. We think that by employing various methods we can control and disperse adolescent activities, but is it detrimental to his or her development into a young adult?

I will explore the previous statement through research of youth at risk today, restrictions that are placed on adolescents, how design impacts adolescents, and what we are doing today in making sure adolescents grow up into structured adults.

youth at risk

Often we hear about teenagers being involved with risky behaviors, but what are these behaviors?

Richard M. Lerner the author of *America's Youth in Crisis* breaks the risk behaviors of adolescents into four categories:

1. Drug and alcohol use and abuse
2. Unsafe sex, teenage pregnancy, and teenage parenting
3. School failure, underachievement, and dropout
4. Delinquency, crime, and violence.

These are the issues often seen with adolescents and the public either wants to shun this particular age group of people or try to help them.

To put the risk behavior categories in the context of this thesis, information for each was gathered for the rates in Minneapolis, Minnesota. A 2010 study conducted the usage of selected substances by 12th graders in the Minneapolis area. The top two substances in the survey were alcohol, and marijuana. 55.3% had used alcohol, and 30.6% had used marijuana (Falkowski, 2011).

For Minneapolis teenage pregnancy a decreasing trend has been occurring over the couple of years. Teenage pregnancy in 2011 was rated at 29.4 per 1,000 females (Official

Website of the City of Minneapolis, 2013). This is a good trend since four years prior the rate was 54.4 per 1,000 females.

In the Minneapolis area high school graduation rate is lacking. According to a 2011 survey, the graduation rate of high school seniors was 46.9% (Official Website of Minneapolis, 2013). This is an issue for Minneapolis because students who do not finish high school face a challenging adulthood as they will not earn as much money and cannot achieve higher paying jobs compared to someone who attends college.

Juveniles who commit crimes are more likely to be adult offenders so it is important to Minneapolis to intervene as much as possible. To respond to the issue, the Minneapolis Police Department re-opened their juvenile unit in 2006. A 2011 study showed that there were 213 juvenile arrests and 878 suspects (Official Website of the City of Minneapolis, 2013). Juveniles are suspected more than they are actually caught in an act.

After depicting what the issues are, in what ways can we begin to understand how youth interact with his or her surroundings?

how design impacts youth

Over the past couple of decades the built environment has been altered to change the way adolescents interact, most specifically public spaces. Public spaces are where teenagers engage in recreational pursuits, which are beneficial to development because skills such as setting goals and completing tasks are learned (Owens 2002). There is a problem however because there is a negative stigma associated with teenagers getting together. "City officials, parents, and other adults interpret their hanging out as an unproductive use of time that will lead to delinquency. Designers are being asked to discourage the use of these spaces by teens when developing design plans for the areas." (Owens 2002). An example of designing to discourage teenage activity is found at the University of California Art Museum in Berkeley, California. Skateboarding was deemed an issue around the facilities so the design of the retaining walls were changed to discourage the activity (Owens 2002). Teenagers are discouraged from places and our solution was to create spaces that they can enjoy.

There have been projects built and designed for

teenagers to use so they are separated from the rest of the public but these have issues. Spaces designed explicitly for teenagers are often under used, they would rather utilize sidewalks or vacant lots (Owens 2002). Instead of designing specifically for adolescents, we should think of creating adolescent-friendly design. Taking a look at how teenagers typically use spaces hints at how designers should approach the task. The interactions between adolescents is important and the environment can vary. "Hanging out" is the primary activity and a place to do so should be provided in public places. Whether in downtowns, parks, or schools, seating which allows a group to sit and talk comfortably should be incorporated." (Owens 2002). If teens can see and be seen by other but creating a minimal interaction I think it would be beneficial.

how youth interpret built environments

In 2008 a study was published in Children's Geographies on how teens would map cities. Through cartography and discussion, a better understanding of teens in an urban environment was created such as favorite and repugnant places. Deliberating on optimal places and how to improve the community was also touched upon. The method of "place mapping with

teenagers" can be essential in planning and designing public spaces to make sure the youth are included in society and to understand what they want or need in his or her city.

curfews

We have the notion that curfews decrease teen crime, but do they really help? The logic behind curfews is simple enough to understand, if kids are at home crimes won't be committed or become victims (Favro 2011) but Tony Favro states that "there is little empirical evidence that curfews deter crime and reduce juvenile delinquency." In the early years of employing curfew laws they were solely used to control young criminals. Fast forward to today, curfews try to resolve complicated social ills such as parents failure to manage children (Favro 2011). There are no before or after crime rates because cities put curfews to use ad different times (Favro 2011).

Restrictions on the use of public spaces falls under the blanket of curfews and it affects the developmental tasks of young people (Owens 2002). Public places are the most common places where teens can get together, but curfews restrict activities at hours when it is acceptable to

parents (Owens 2002).

skateboarding ordinances

Skateboarding is seen as an activity that is detrimental to the physical environment and interferes with how others enjoy the space (Owens 2002). Ordinances have made skateboarding, a sport that is categorized with bicycling, a crime (Owens 2002). In response to the ordinances skateparks have been designed and created for skateboarders to use, but the spontaneity and freedom of the sport is eliminated (Owens 2002). Skateparks are frequently placed a great distance from other park activities and in less than desirable places. A good location for a skatepark would be close to amenities that the public utilizes so teens can see and been seen by others which would reassure passive interactions.

summary

Architectural design has the potential to create healthy environments to promote good behavior. Buildings are elements of culture that have significant role to play in the process of change. Architects should ask questions similar to what a sociologist would ask in the beginning of the design process to gain a better understanding of the community and what type of people will be using the building. Identifying the function of a space and designing it accordingly will help the environment enable behaviors.

Teenagers are seen as a burden to society because of negative behaviors and the way that they interact with one another. There is a negative stigma attached to teenagers in groups and adults think that they are up to no good. Adolescents however are involving themselves in risky behaviors because there are not enough places to positively interact with one another. Such behaviors are causing teenagers to underachieve, fail, or drop-out of school. Skateboarding ordinances, restrictions on usage of public spaces, and curfews are a few of the methods that are being used to control adolescent activities. If there are going to be restrictions then there should be places that

promote the use of a space by a teenager.

Designing a space that is adolescent friendly rather than designing specifically for the age group is more successful. The way that young adults interact with each other provides clues to how spaces should be designed for the age group. Teenager's primary activity is "hanging out" so there should be plenty of places for teens to sit in small groups and converse.

Through design there is the possibility for teenagers and the public to exist in a positive way. Passive interactions are important for the success of how the public view adolescents. If someone walking on the sidewalk can see teenagers within a building or on a site having fun and involving oneself in productive activities, hopefully the public can start to change his or her viewpoint on teenagers.

typological research

TYPOLOGICAL RESEARCH

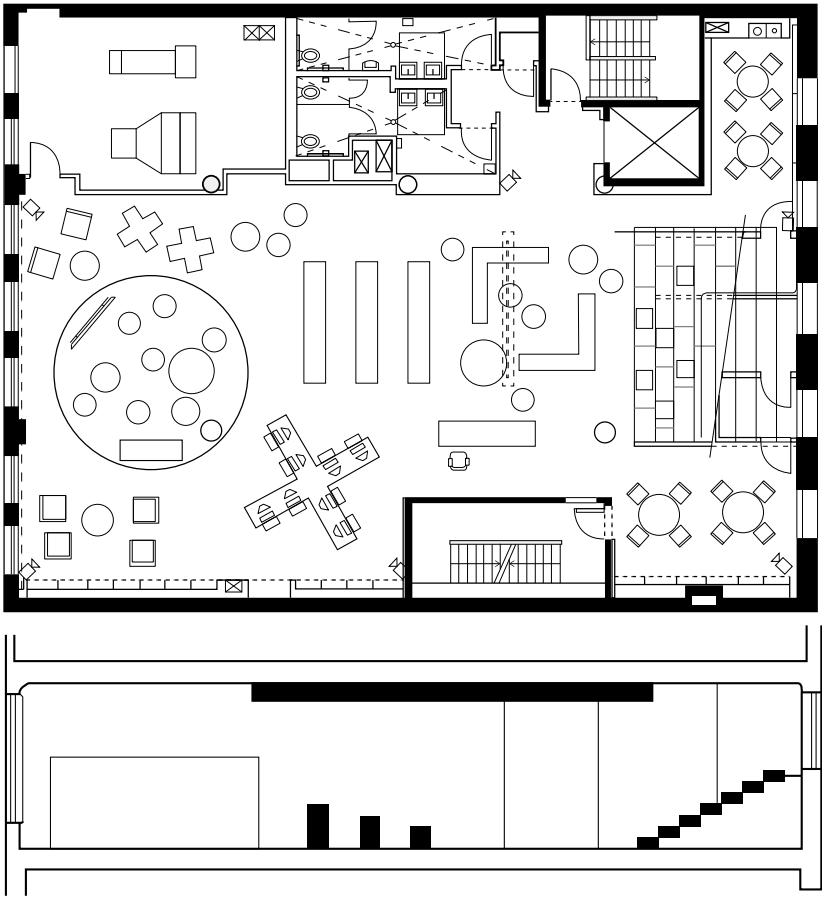
introduction

The case study series examines three distinct approaches to a teen center. Each study depicts effective modern ways architects have designed teen centers nationally and internationally.

HAMILTON GRANGE TEEN CENTER
New York, New York

The Hamilton Grange Teen Center is located in New York, New York. Previously the third floor of the Harlem's landmark branch, Rice + Lipka Architects re-designed the 4,400 square foot space into a teen center. The space contests the traditional views of what a library is by combining an open floor plan and technology that encourages social interaction.

Bamboo Bleachers
Figure 9 (Left) M. Moran [Photo]



Plan to Section
Figure 10 K. Mueller [Graphic]

The open floor plan design consists of various spaces each with a function. The spaces are shaped by two components, a twenty-foot diameter Media Vitrine and a bamboo bleacher (figures # & #). The Media Vitrine is enclosed by glass where teens can play video games, instruments, or movies and the sound is contained by four holosonic speakers. The holosonic speakers construct a vertical column of short wavelength sounds that ensures the sound does not multiply. The Media Vitrine challenges the idea that multi-media spaces should be dark and confined. Loud activities inside of the glass space can barely be heard outside of the space. The glass media space allows light into the space and ensures teens can be easily monitored.

Ample area for lounging and plain "hanging out" appeals to what teenagers do best. The bleachers can be used as a hangout area for small groups of teens or function as seating for viewing a performance. When seated on the highest row the bamboo bleacher also provides views to the street down below. This correlates with the idea that teens like to be in an elevated

Bleachers & "L" Shaped Seating
Figure 11 M. Moran [Photo]

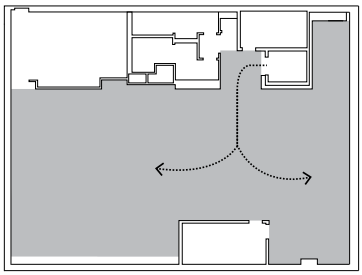
Inside the Media Vitrune
Figure 12 Rice + Lipka Architects [Photo]

space to view the world around, but teens are not seen. Seating in front of the bleachers forms an "L" shape, and the seating can be rolled away when the space needs to be used for a performance. The other components that make up the teen center are a reading room, snack and chat area, computer cluster and a lounge corner.

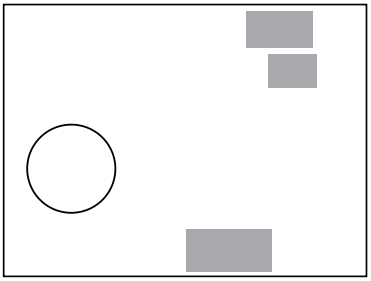
The Hamilton Grange Teen Center allows a place where teens can come to do homework but also interact with his or her peers in a constructive environment. It appeals to teens as well because it is a place to play video games, watch a movie or have a snack. Computer access is present for teens who don't have a laptop so they can complete homework or browse the internet. A service desk is centrally located in the space. This is where staff can assist teens but also monitor the activity in the teen center.

The other teen centers researched are entire buildings, while the Hamilton Grange Teen Center uses one floor of an existing building. Since the teen center is located in New York City it utilizes existing elements in the city instead of creating completely new projects from scratch. This is important because the city is already very dense and re-using an existing floor of a building is much more environmentally friendly.

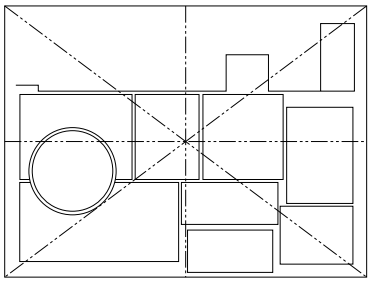
The design of the interior of the building is modern, open and lively something important to the modern teenager. There are splashes of color used throughout the teen center found on the walls and furniture. This is similar to the other cases as bright colors are incorporate into the designs.



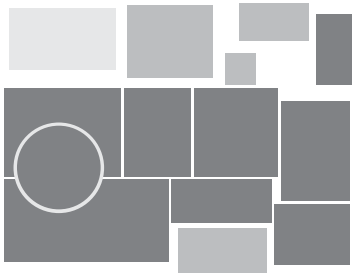
Circulation
Figure 13 K. Mueller [Graphic]



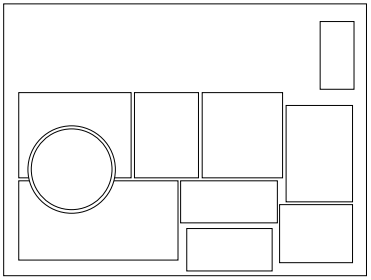
Additive and Subtractive
Figure 14 K. Mueller [Graphic]



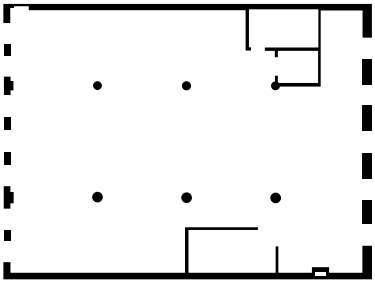
Geometry
Figure 15 K. Mueller [Graphic]



Hierarchy
Figure 16 K. Mueller [Graphic]

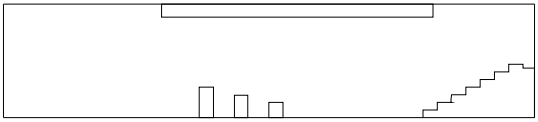


Unit to Whole
Figure 17 K. Mueller [Graphic]



Structure
Figure 18 K. Mueller [Graphic]

"L" Shaped Seating
Figure 19 Rice + Lipka Architects [Photo]



Massing
Figure 20 K. Mueller [Graphic]

Lighting
Figure 21 K. Mueller [Graphic]

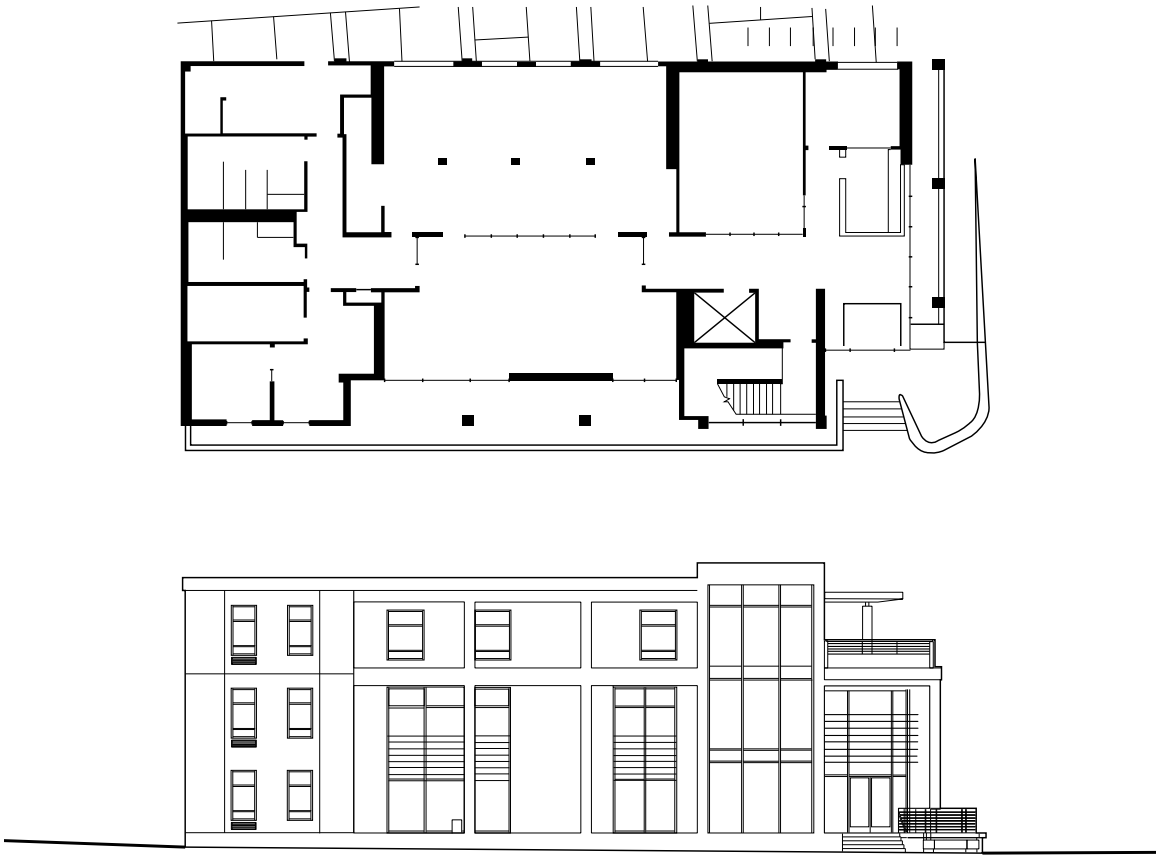
Since the Hamilton Grange Teen Center was constructed there is now a safe place for adolescents to retreat to after school. It helps keeps teens off of the street which helps decrease unwanted behavior. A constructive environment is good for teens to work on homework and hang out with peers. The Hamilton Grange Teen Center was really designed with teens in mind.

YMCA PG&E TEEN CENTER

Berkeley, California

The YMCA PG&E Teen Center is a 13,500 square foot adaptive re-use project designed by Noll & Tam Architects in 2010. Downtown Berkeley, California is known for green buildings and the YMCA Teen Center fits the role. Upon completion, the building became LEED certified and in 2012 it was awarded with the Energy + Sustainability Citation by the AIA San Francisco. Previously the Pacific Gas and Electric Company, it is now home to the YMCA Teen Center.

Classroom
Figure 22 (Left) D. Wakely [Photo]



Plan to Elevation
Figure 23 K. Mueller [Graphic]

In a city of green buildings it was important to make sure the new teen center followed the same path. It was quite a task to make the existing building LEED certified. For example, the building does not use air conditioning so installing operable windows was a must. Operable windows were cut in the east and west facades of the building to allow for more natural light and airflow. To educate teens on why these changes were made, plaques are mounted on the walls with facts about why the building is environmentally friendly.

Open Workspace
Figure 24 D. Wakely [Photo]

The design team consisted of a collective group of YMCA teenagers, real estate developers, architects, program developers, and other members of the community. The team promoted ideas of education, sustainability, and leadership while designing the teen center. The spaces within the teen center are primarily open than can house any type of educational settings such as classes or study groups.

North Facade Perspective
Figure 25 D. Wakely [Photo]

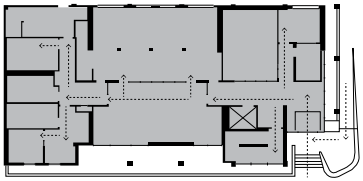
On the first floor there are offices and classroom spaces. The classrooms use curtain-walls along

the corridors to allow visibility and natural light into the space. The second floor is primarily open flexible program space, however there is a private conference room with glass walls that serves as a meeting space or classroom. The third floor is primarily private and open office space. Also on the third floor is roof deck where teens can sit, relax, and overlook the city.

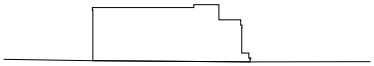
Berkeley is a city known for it's members of the upper middle class, but the first-generation of children from recent immigrants lack literacy skills and mentorship. The city of Berkeley understood this problem and in response decided to be proactive by adding a teen center. The YMCA Teen Center is a place where teens can get extra help on homework and connect with peers.

This project is important to note that teens had a part in the whole process, from design to construction. I think that it is important that teens had a say in the design so what they needed and wanted from a teen center was voiced. They were helping create a place that they were going to use. It was also an education experience because they learned the process of designing and constructing a building.

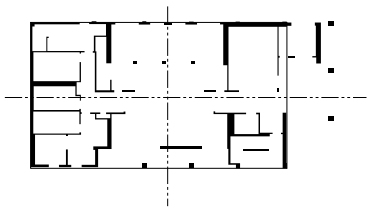
The YMCA PG&E Teen Center is similar to the Hamilton Grange Teen Center in the way that it reuses an existing building. In a city that prides itself on sustainability, using an existing building rather than creating a new one is highly supported by the community. The use of color on the walls and through exterior lighting coincides with the other cases.



Circulation
Figure 26 K. Mueller [Graphic]

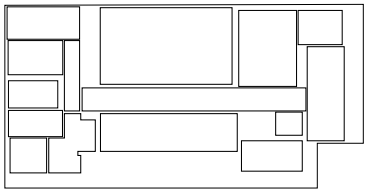


Additive and Subtractive
Figure 27 K. Mueller [Graphic]

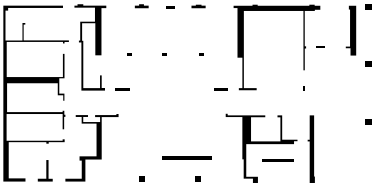


Geometry
Figure 28 K. Mueller [Graphic]

Hierarchy
Figure 29 K. Mueller [Graphic]

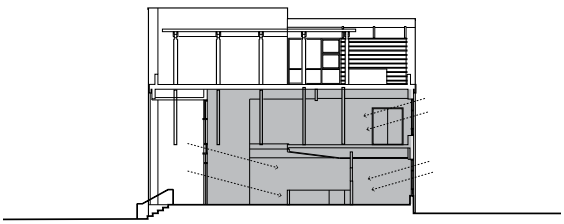


Unit to Whole
Figure 30 K. Mueller [Graphic]

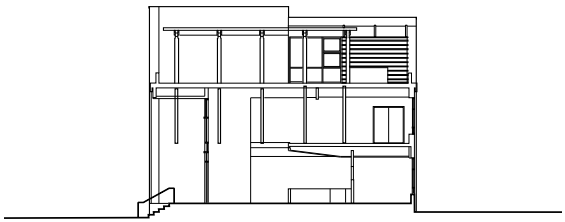


Structure
Figure 31 K. Mueller [Graphic]

Roof Deck
Figure 32

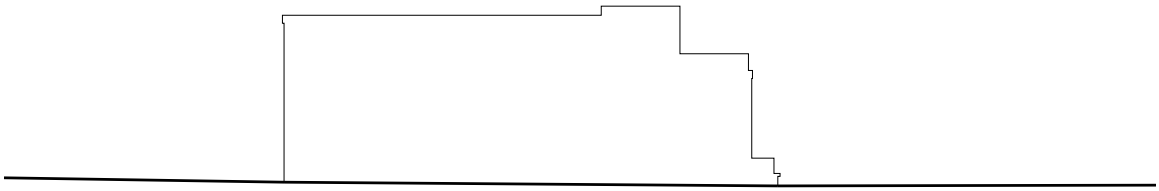


Lighting
Figure 33 K. Mueller [Graphic]



Section
Figure 34 K. Mueller [Graphic]

The members of the community came together to solve a problem and the YMCA PG&E Teen Center was the outcome. The teen center is a haven where youth can complete homework, get extra help, and interact with friends.

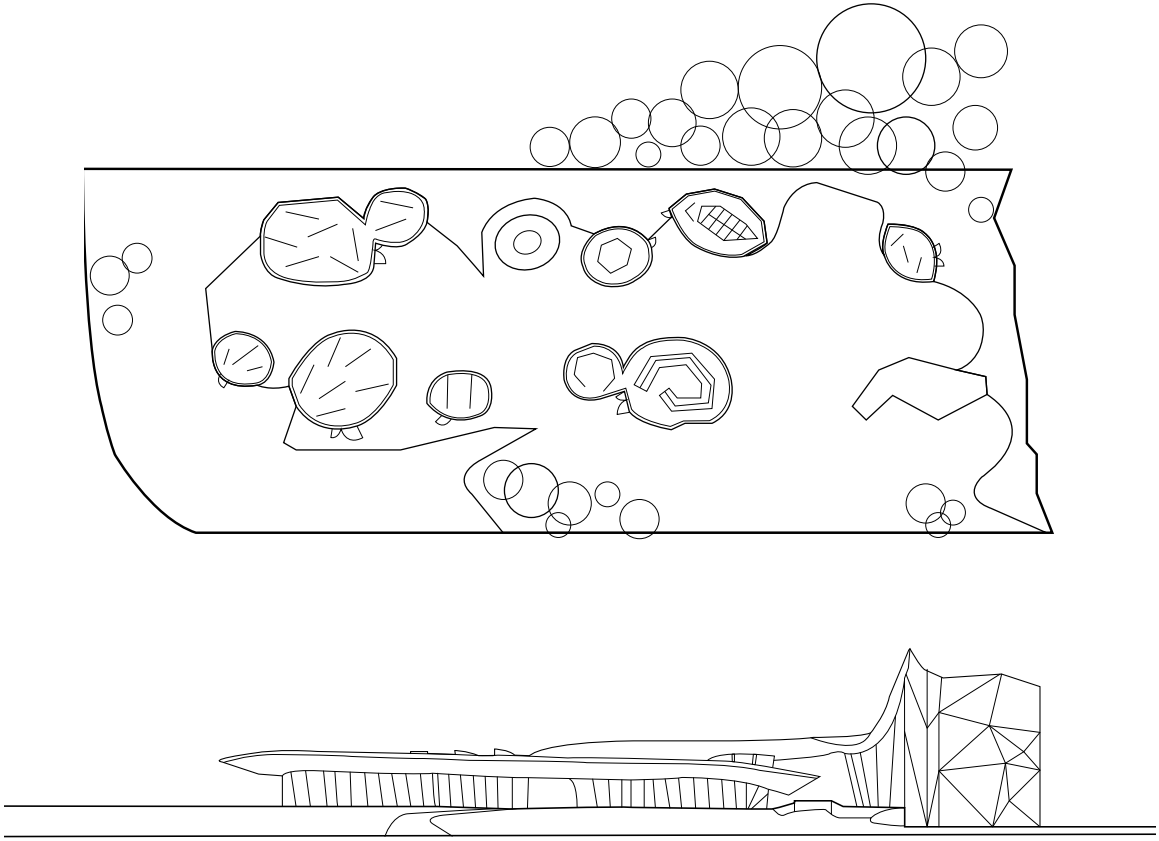


Massing
Figure 35 K. Mueller [Graphic]

MERIDA FACTORY YOUTH MOVEMENT
Merida, Spain

Located in Merida, Spain, the Merida Factory Youth Movement is a modern structure where teens can gather. Designed by Selgas Cano and completed in 2011 the project covers 10,138 square feet. The teen center is a hub for skateboarding, rock climbing, and various classes of interest for adolescents.

Skatepark & Canopy
Figure 36 (Left) R. Halbe [Photo]



Plan to Elevation
Figure 37 K. Mueller [Graphic]

Located in Merida, Spain, the Merida Factory Youth Movement is a modern structure where teens can gather. Designed by Selgas Cano and completed in 2011 the project covers 33,260 square feet. The teen center is a hub for skateboarding, rock climbing, and various classes of interest to adolescents.

A large cloud-like canopy covers a skatepark that winds in-between the column-like interior spaces. The oval shaped interior spaces are isolated modules and each have independent access. The interior spaces serve as classrooms for subjects such as video art, electronic music, manga drawing, traditional, and contemporary dance.

The Merida Factory Youth Movement design had to work within a prudent budget, therefore the structure does not use air conditioning. In order to combat the elements a one meter thick canopy serves as protection from sun and rain.

There are no windows in the structure but the translucent polycarbonate sheeting used allows for diffused light to enter during the day. When viewing the building at night the lighting within creates glowing appearance. Most of the structure is constructed of metal frames clad

Interior Classroom
Figure 38 I. Baan [Photo]

Rock Climbing Wall
Figure 39 I. Baan [Photo]

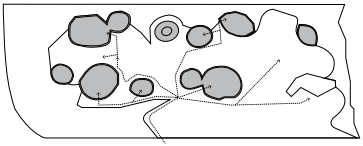
with low cost polycarbonate sheeting that is the skin of the building.

They youth center is also a place that is used by people of all ages. There are plenty of places that encourage small group social gatherings such as ledges and small alcoves for sitting where one can safely view skateboarders or bikers. The canopy mentioned earlier is a thermal covering protects teens from rain and sun while they perform various activities. It is praised by the community for the fact that is a place where teens can retreat to that does not involve shopping.

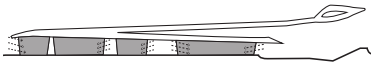
The Merida Factory Youth Movement has thought about a place where teens can partake in their activities in one central place. It is also important that when they are executing activities, especially skateboarding or rock climbing, they are seen by people who walk by the site. They are still at a distance so interaction is not necessary.

The Merida Factory Youth Movement has created a place for teens in mind. It is the only project in the case study series that has really about site design and how teens use it. There are plenty of activities that teens can perform. A colorful rock climbing wall can be seen from people walking around the site and encourages interaction.

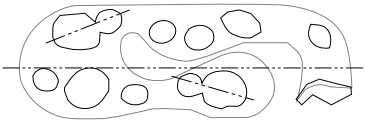
The incorporation of a skatepark into the design reflects the skateboarding culture of Spain but is also friendly to bikers and people who roller blade. The use of a bright orange canopy relates to the use of color as noted in the other cases. The color catches one's eye possibly creating curiosity for further exploration of the building.



Circulation
Figure 40 K. Mueller [Graphic]

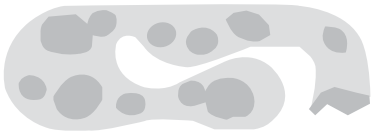


Lighting
Figure 41 K. Mueller [Graphic]

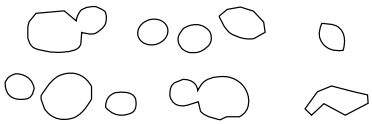


Geometry
Figure 42 K. Mueller [Graphic]

Hierarchy
Figure 43 K. Mueller [Graphic]



Unit to Whole
Figure 44 K. Mueller [Graphic]



Structure
Figure 45 K. Mueller [Graphic]

Interior Classroom

Figure 46 I. Baan [Photo]

Structure
Figure 47 R. Halbe [Photo]

Massing
Figure 48 K. Mueller [Graphic]

TYPOLOGICAL RESEARCH
summary

The three case studies researched show an array of building types and how to approach designing a teen center. From a renovation of a single level of an existing building, to a renovation of an entire building, to a new construction with an organic structure, each are successful interventions.

Natural light is very important in each of the cases. Diagrams and photographs of the spaces helped me understand how natural light is used. In the Hamilton Grange Teen Center windows on the east and west facade allow light into the space. The YMCA Teen Center has windows on all sides of the building, and to ensure interior classrooms receive natural light, glass walls are used. In the Merida Factory Youth Movement, while no physical windows are used, a translucent material is used for the walls that allows diffused sunlight to enter each of the spaces.

The use of color is evident in all of the cases and without a doubt, has brightened and invigorated each instance. The Merida Youth Factory Movement has a bright orange roof structure that catches anyone's eye. The YMCA Teen Center has a green colored facade and inside has colored accent walls in each room. The Hamilton Grange Teen Center integrates color on the walls and through select furniture pieces.

The case study series has impacted the way I think about my theoretical premise. I would expand briefly about creating open and colorful spaces that utilize natural light. Each of the cases have created safe environments for teens and have

incorporated the ability for adults to be present without being overbearing. Each example also has a distinct program with different elements that are of interest to teenagers.

The graphic analysis portion of the case studies has broadened my understanding on how to think about how I will design my project. All of the diagrams created are important to understanding the buildings, however, circulation, spacial relationships, importance of natural light to me, are the most valuable.

The social context, site, and culture have had an effect on each of the cases. The Hamilton Grange Teen Center located in a dense city, New York, and instead of creating a new building the architects utilized what was already there. The YMCA Teen Center located in Berkeley, California was dealing with the issues of first-generation immigrants whose literacy was lacking thus a library and study center was created. The Merida Factory Youth Movement located in Merida, Spain includes a skate park which is popular for teens in Spain, and offers classes of interest to the local teenagers.

Each of the projects has elements that I would like to theoretically convey in my design. The Merida Factory Youth Movement has an enjoyable, colorful, organic roof structure that shades and protects visitors while partaking in activities. An open and light floor plan in the Hamilton Grange Teen Center creates visual flow through the space and seems to create a pleasant atmosphere. The YMCA Teen Center also has open floor plans, and if the spaces are enclosed, glass walls separate circulation and classrooms.

historical context

HISTORICAL CONTEXT

In order to better understand how to design a teen center it is important to take a look at the past. In this section the history of a successful teen program is examined. In addition how teenagers and their culture has changed over the past thirty years is explored. Finally a look at the history of social media is analyzed.

Teen Challenge

Teen Challenge is a program that helps troubled adolescents lead drug-free lives. It is seen as the most successful teen program in the world. Teen Challenge U.S.A. was founded in 1958 by a young reverend after reading a magazine article about seven teens on trial for murder in New York City.

The first Teen Challenge center used a large house in Brooklyn, New York. The original program was a year long residential discipleship. From the first Teen Challenge establishment, the program grew to locations across America. The program was so successful it expanded to international locations. As of 2002, Teen Challenge has 178 locations in the U.S. And 150 in countries around the world (Teen Challenge U.S.A., 2012). Today, Teen Challenge centers use a 12-18 month residential plan to help mentor teens into better citizens.

MN Adult & Teen Challenge Logo
Figure 49 Teen Challenge [Graphic]

Teen Challenge is broken into multiple categories, mens, womens, boys, girls, ministry, family, and administration. Each category typically has it's own building, and depending on a city's need, categories are selected to be established. The men and women do no live in the same residencies but they are typically located near each other. The other sections such as ministry and administration are also centrally located in relationship to the residencies.

Teen Challenge has a presence in Minneapolis. There are mens, womens, and boys residencies, administration, and ministry locations. As seen in figure # the Teen Challenge locations are located between xdistance-xdistance blocks of the site. The Teen Challenge centers in Minneapolis use existing buildings or large homes to house the types of centers. In order to measure the success of Teen Challenge in Minnesota a study was conducted of 154 former clients who graduated from the program between 2007-2009. The findings are as follows*:

-74% of adult program graduates reported no drug use in the past 6 months.
-58% attended school since graduating
-77% either work 30+ hours per week or were a full-time student.
-80%+ rated the quality of Minnesota Teen Challenge as outstanding or very good.

*(MN & Adult Teen Center, 2013)

Despite the ministry center, there is not a place for both genders to interact together for recreational activities such as sports or arts classes. It also seems as there is no place for the teens to interact with peers outside of the residencies in an enjoyable environment.

teenagers then & now

The way teens interact with his or her environment now is different than 30 years ago. We are in an age of technology and the way teens behave often reflects it. Rewind about 30 years.

You hear Journey's new song playing on the radio while you're at work and you can't wait to get it on cassette. Speaking about your job you are making $60.30 a week at the local burger joint. Your shift is almost over so you need to call your friend who just got their license for a ride using the work telephone (what is a cell phone?). Your friend arrives in their parents station-wagon and you two cannot wait to get home to beat the last level in Legend of Zelda on your Nintendo NES.

Teenagers in the 1980s were much different than today, from post-high school education to the clothes worn. In the 1980s 77.5% of high school students graduated from high school(in-text citation). A little over half of graduated high schoolers would pursue higher education, the rest went straight into working or other aspirations. Teenagers did not have a clue what a cell phone is, but they were very interested in playing video games. Half of the age group had his or her license.

The Backstreet Boys are playing at work and you can't decide if you love it or hate it. Should you get the new CD? You're working at the local burger joint and are making $81.45 a week. Your shift is almost over so you check your pager and find out your friend is going to pick you up from work. Your friend arrives in their car and you decide to go back to your house to catch the latest episode of Friends. After your friend leaves you decide to log onto your family's brand new computer to instant message your friends on AOL.

In the 1990s there is a decline in graduating high

schoolers to 72% (Education Working Paper, 2005). Despite the declining rate of graduating high schoolers, the amount of the graduates attending college increased to 63% (Science & Engineer Indicators, 2002). There is also another type of transformation. This is the decade where technological advances really take off. About 39% of households have personal computers from 1997-1998, and half of the computers had internet access (Newburger, 2001).

The latest Macklemore song on the radio, you can't wait to get home and download the new song. You are working at the local burger joint and are making $130.00 a week. You check your cell phone and you have a text message from your friend saying they will pick you up from work. Your shift is finally over and you send out a Tweet "Glad that's over!". Your friend arrives in their Honda Civic and head home. You two can't wait to watch the latest episode of Glee that you digital recorded last night.

A 2012 study shows that the graduation rate of high schoolers is 72%, no change since the 1990s. Of the students who graduated from high school about 79% will attend college (Best Education Degrees, Those kids today...). It is interesting that the number of students graduating high school is decreasing but the number of students attending college is increasing. This could be because the students who complete high school aspire to go to college. 3 out of 4 teenagers have a cell phone and on the cell phones are access to social media.

the evolution of social media

A lot of what teens do today involves internet or technology. Social media is very important to today's teenager. It's their primary way of communicating what they are doing, where they are, what they just got etc. There has been a large social media boom over the past seven years, but where did social media come form?

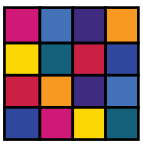
Taking a closer look social media has been around a lot longer than one would think. The first type of social media established around 500 BC is still used today, postal service. It was, and still is a way of communicating through letters sent across distances of land. The next advance was the creation of the telegraph in the 1700s (Skloog, History of social media). Now people could send messages faster over a great distance through a series of codes. Access to this communication device was limited as people would usually have to schedule a time to travel to the post office and tell the operator what his or her message was. About 100 years later the telephone was created. People could now use a communication device within their own homes.

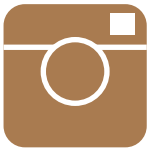
The creation of now archaic computers ushered in a new revolution of communication. Usenet created in 1979 was the first instance of users having the capability to post articles to news groups (Skloog, History of social media). IRC (Internet Relay Channel) created in 1988 allowed users to share files to keep in touch with others (in-text citation). In 1997 the first modern

Social Media Timeline
Figure 50 K. Mueller [Graphic]

social network was created, Six Degrees (Skloog, History of social media). This was the first social networking tool that allowed users to create his or her own profile and add friends. Myspace that was created in 2003 was a big boom for social networking. Users could create fully customizable profiles and embed videos from his or her favorite musical artists. From 2003 to today countless social media avenues have been created, each subsequent one tying to be more popular than the last.

New advances in social media has become a way of life, it has evolved in such a way that you can inform others what you are doing through text or photographs. 9 out of 10 teenagers have used social media showing the popularity with the age group (Myhre, The changing landscape of teens and social media). Facebook was the most popular with teenagers for a few years but new social media websites that are based upon photo-sharing are quickly gaining in popularity for this age group. Currently the most popular social media sites with teenagers are Tumblr, Twitter, Facebook, Instagram and Snapchat. Descriptions of each are listed below:





1997 2003 2006 2007 2010 2011

1. Tumblr – Microblogging platform and social networking website.
2. Twitter - Microblogging and social networking service through "tweets" that are 140 character text messages.
3. Facebook – Online social networking service
4. Instagram – Photo and video sharing social networking service that allows users to edit uploaded content by adding filters etc.
5. Snapchat – Photo messaging application that allows users to send "snaps" with text or drawing captions.

Our society is in an age of technology. The creation of the internet has exponentially increased the amount people use the technology. In the early 1990s it was rare for home to have a computer, but in the late 1990s is when all homes started to have a computer. It was a fascinating idea that you could browse anything on the internet. For almost everyone technology has become a way of life and people don't know what they would do without it.

Teenagers have changed over the past thirty years. How one would have designed a teen center in the 80's would have been different than designing one today. Teens interests have changed and with the age of technology, needs and wants within a space have changed as well.

thesis goals

THESIS GOALS

academic

An academic goal for my thesis project is to provide insight to future architecture students about how a teen center could be designed for a community. My project revolves around how we should understand architecture and designing for a certain age group, in particular adolescents.

Reading this thesis document will help architecture students and the public understand what a teen center is. I would like to help others understand architectural design through my project to inform people how a design concept could become a reality.

There are areas in architecture that I would like to broaden my understanding. I would like to expand my knowledge about structure to ensure my design could be constructed. I also want to increase my competence for passive systems so I can incorporate such systems into my project.

professional

A professional goal of my thesis is to create a comprehensive and professional project. Analyzing numerous design solutions will create a well-balanced and distinct proposal. Time-management and planning will make sure all aspects of designing a building are addressed.

A clean, final display will effectively relay my design intentions. My final exhibit will show how effectively I can construct a proposal.

personal

The most important aspect to me is to create a project that makes me proud. I want to push myself harder than I have before to ensure I make a complete project. What I produce and display reflects on me as an architect, designer, and a person.

Upon completion of my thesis I will be entering the professional world. It is important to create a project that I am satisfied to show potential employers. Ultimately making myself happy with my work is the most important goal to me.

site analysis

Basketball Courts
Figure 51 K. Mueller [Photo]

SITE ANALYSIS
narrative

I entered onto the site and the first thing I noticed was there is a lot of paved surfaces. Behind the existing building are the playground and basketball courts. They are fenced off and locked creating a hostile impression of play. The basketball courts are in a state of extreme decay as straw-like grass peek through the cracks. The state of decay expands to all of the pavement on the site, nothing new has happened here for a long time.

All around the site improvements to the area are visible. The north side of the site is located on busy East Lake Street and across from it are box retail stores and restaurants of a newer construction, the development must be less than 10 years old. The area across the street is quite busy. People are eating lunch at the neighborhood Little Caesars, or finding parking to go to Savers.

The ding of an electronic bell can be heard signaling the arrival of the light-rail train. The Lake Street Midtown Station and platform can barely be seen since it is elevated to match the height of the overpass for 55. A new enclosed elevator and stair is where one can access the light-rail train.

The park and ride lot on the east side of the site is barely full signaling it is a Saturday. The south side of the site is much quieter than the north as there are small neighborhood streets and homes. To the west of the site the YWCA of Minneapolis Mid-Town that has been open roughly 13 years.

Light Rail Station
Figure 52 K. Mueller [Photo]

QUALITATIVE

surrounding features/amenities

The bike path runs along the east side of the site. As mentioned earlier the Lake Street Midtown light-rail station is to the east as well. The YWCA which is a gym and child care center is to the west of the site. A small commercial retail center is to the north across Lake Street. A Target store is nearby, to the east of the overpass. A bus station is located at the north side of the site, buses 21 and 27 serve the stop. South High School and field is one block to the south-west of the site.

views

The surrounding architecture as mentioned earlier consists of newer construction. The new light-rail station and overpass can be seen to the west. The downtown Minneapolis skyline can be seen on the site when looking to the north-west.

built features

One building is on the site that appears to have been constructed in the 1980s. It is a three level building. On the east facade, the building cantilevers over the entrance and is supported by columns. The building footprint's area is 17,742 square feet.

vegetation

There are small patches of grass and trees on the site. There are trees on the south side of the site, and some around the existing building and parking. The trees are about 20 feet in height and seem healthy.

water

No water is evident on the site. The closest water sources are the Mississippi River to the east and the Powderhorn Lake to the south-west.

light

There is ample consistent light on the site. The only existing elements to affect the light on

Skyline in the Distance
Figure 53 K. Mueller [Photo]

the site are the existing building and the trees. There are no high rise buildings that would cast shadows on the site. Since the site is primarily pavement the temperature increases, especially in the warmer months.

wind

The wind paths in Minneapolis come from the north-west in the winter and south-east in the summer. Currently on the site there is no cover from the north-west wind. Few trees block the south-east wind on the site.

human characteristics

There are a lot of human characteristics found on the site. The existing building on the site is home to the Southdale Learning Center. The fenced off abandoned basketball courts and playground is evidence of human use. The rest of the site is mostly paved surfaces for parking. The site is a temporary home for the mid-town farmers market. People do walk or bike through the site to get to the light-rail or Lake Street, but other than visiting the farmers market people do not linger on the site.

distress
The signs of distress on the site come from the cracked pavement. The nature of the parking lot make the site seem much more run down. The fenced off basketball court as mentioned earlier seems abandoned.

QUANTITATIVE

soils
The soil found on the site is loamy sand. The soil is primarily made of sand, clay, silt and organic matter. The site area is considered Urban land.

water table
The water table is at least 18 inches below ground level.

utilities
Minneapolis Water Works supplies, treats, and distributes water to the site. Minneapolis Sewer Operations handles storm drains and sanitary sewers.

zoning
The site is located in zone 27 of Minneapolis. The site is part of the commercial district.

Farmer's Market
Figure 54 K. Mueller [Photo]

Commercial Area
Figure 55 K. Mueller [Photo]

Existing Building Entrance
Figure 56 K. Mueller [Photo]

Playground
Figure 57 K. Mueller [Photo]

vehicular traffic

East Lake Street has two way vehicular traffic that runs along the north end of the site two lanes run in each direction. 22nd Avenue runs from north to south. It two way traffic, one lane running in each direction. Hiawatha Avenue has four lanes of two way traffic that overpasses Lake Street.

pedestrian traffic

There is pedestrian traffic on Lake Street and 22nd Avenue. The pedestrian traffic on Lake Street is greater on the west side of Hiawatha Avenue.

topographic survey

Panoramic of the Site
Figure 58 K. Mueller [Photo]

The slope of the site is 3 percent. Drainage is not an issue on the site and there has not been problems with flooding.

site character

The pavement is very cracked from freezing and thawing in the winter months over time.

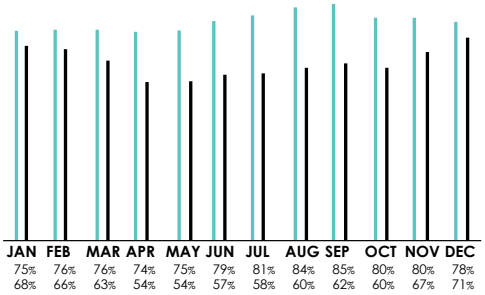
Photogrid
Figure 59 Google Maps

Looking North
Figure 60 K. Mueller [Photo]

Looking West
Figurew 61 K. Mueller [Photo]

Looking South
Figure 62 K. Mueller [Photo]

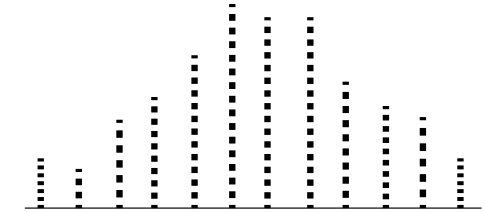
Looking East
Figure 63 K. Mueller [Photo]



	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
morning	75%	76%	76%	74%	75%	79%	81%	84%	85%	80%	80%	78%
afternoon	68%	66%	63%	54%	54%	57%	58%	60%	62%	60%	67%	71%

Humidity

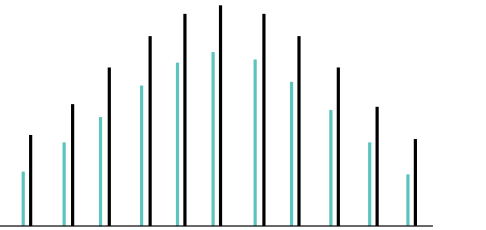
Figure 64 K. Mueller [Graphic]



	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
av. precip (in)	1.02	0.79	1.85	2.32	3.23	4.33	4.06	4.06	2.68	2.13	1.93	0.98
days w/ precip	8	7	11	9	11	13	10	10	9	8	8	8

Precipitation

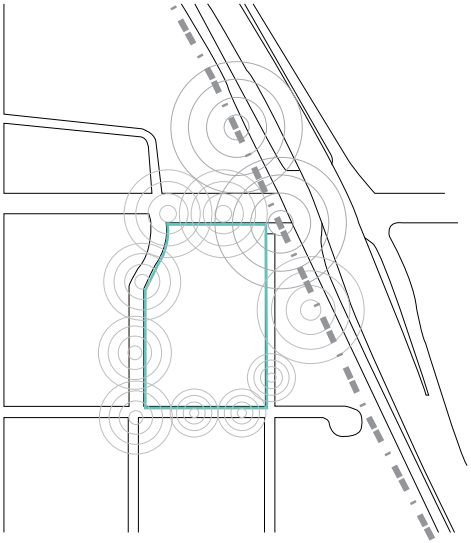
Figure 65 K. Mueller [Graphic]



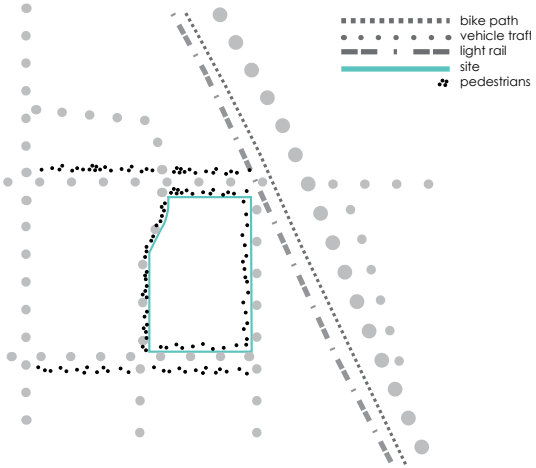
	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
low	4°f	12°f	24°f	36°f	49°f	58°f	63°f	61°f	51°f	39°f	25°f	11°f
high	22°f	28°f	41°f	57°f	70°f	79°f	83°f	80°f	71°f	58°f	40°f	26°f

Temperature

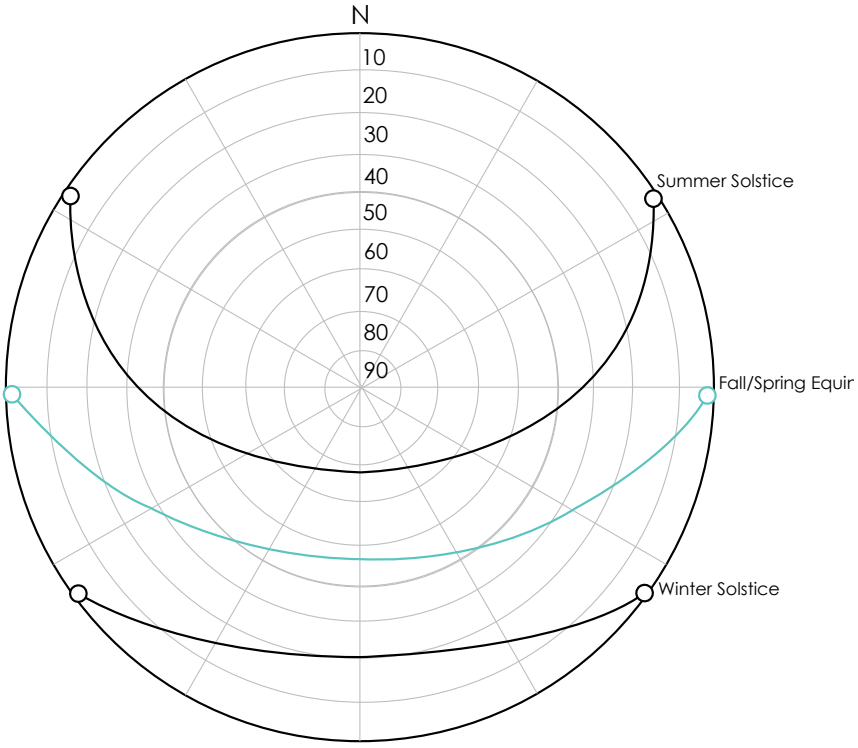
Figure 66 K. Mueller [Graphic]



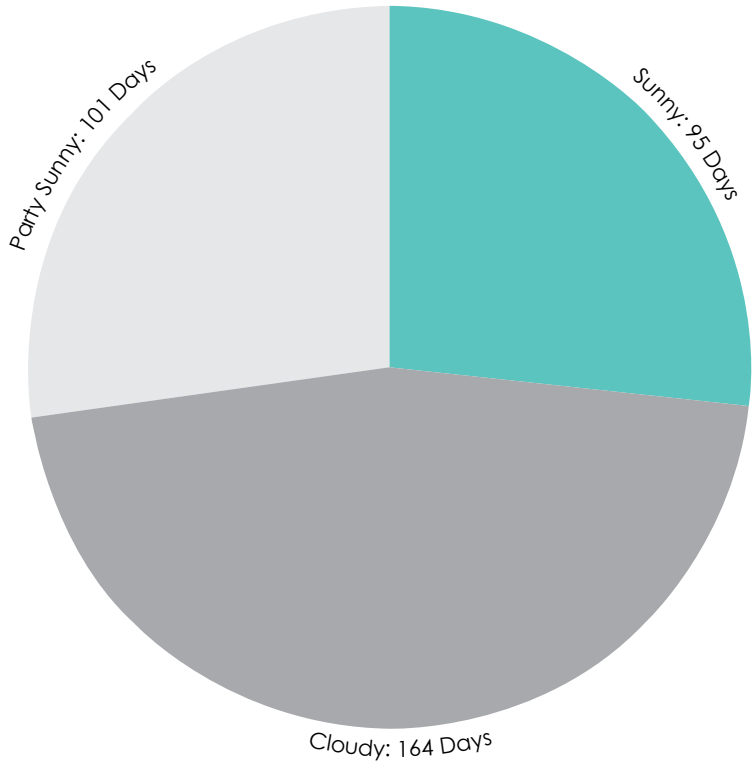
Noise
Figure 67 K. Mueller [Graphic]



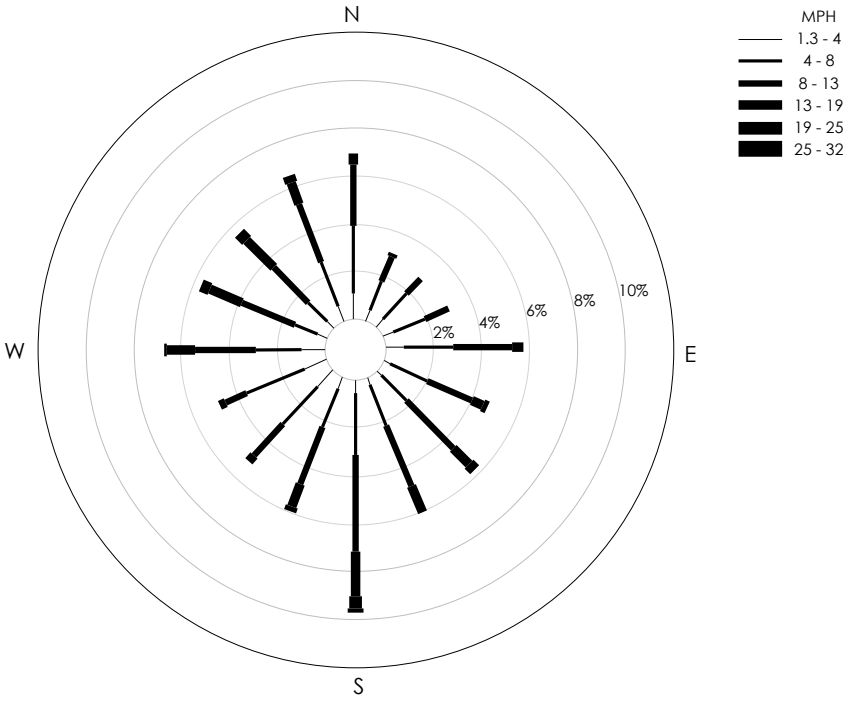
Circulation
Figure 68 K. Mueller [Graphic]



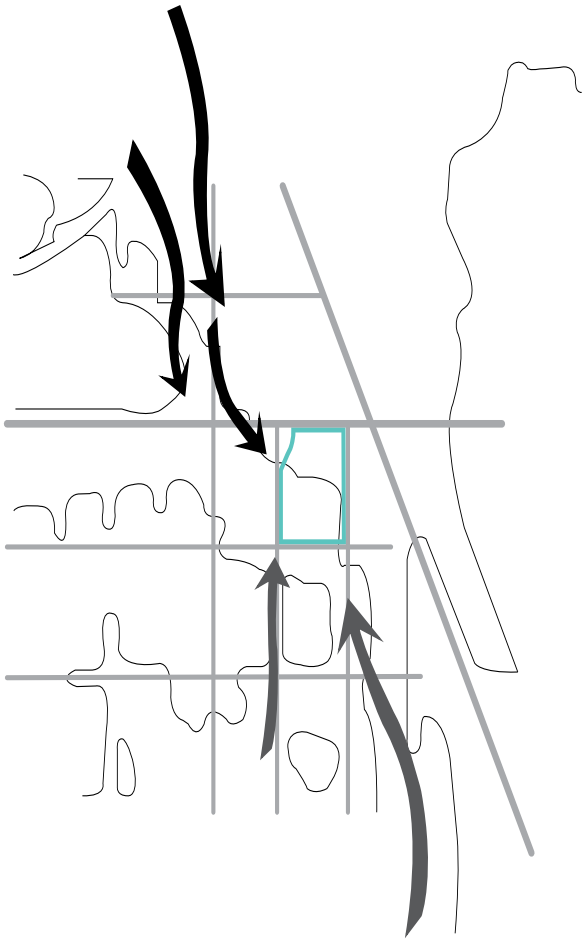
Sun Path
Figure 69 K. Mueller [Graphic]



Sunny & Cloudy Days
Figure 70 K. Mueller [Graphic]



Wind Rose
Figure 71 K. Mueller [Graphic]

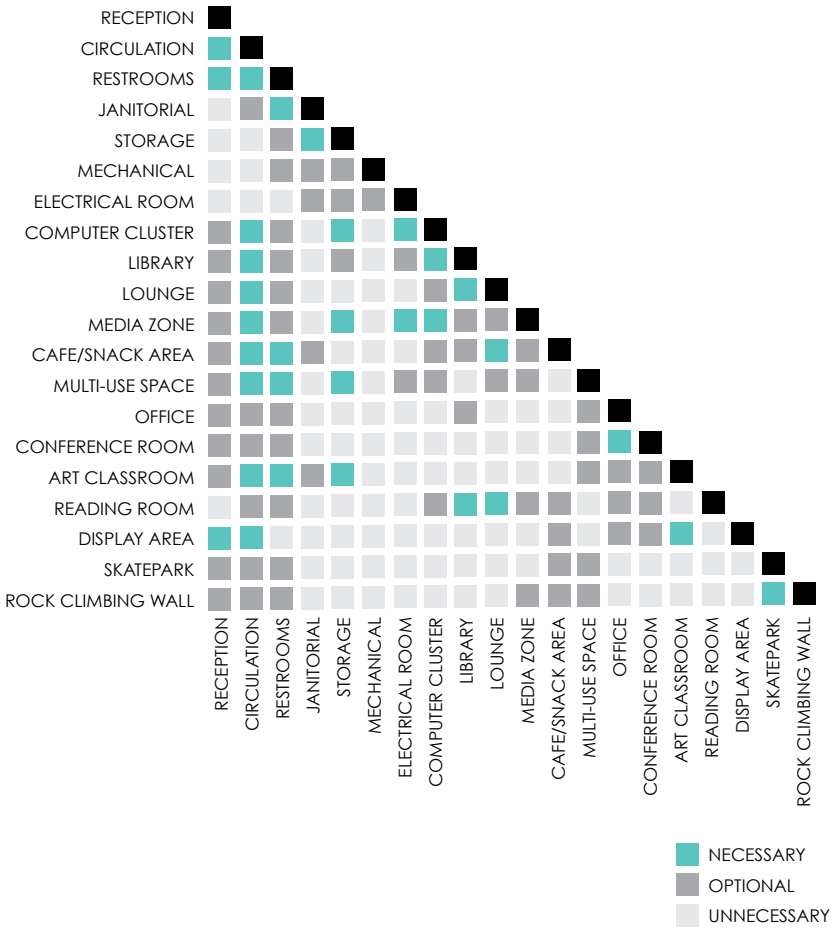


Air Movement
Figure 72 K. Mueller [Graphic]

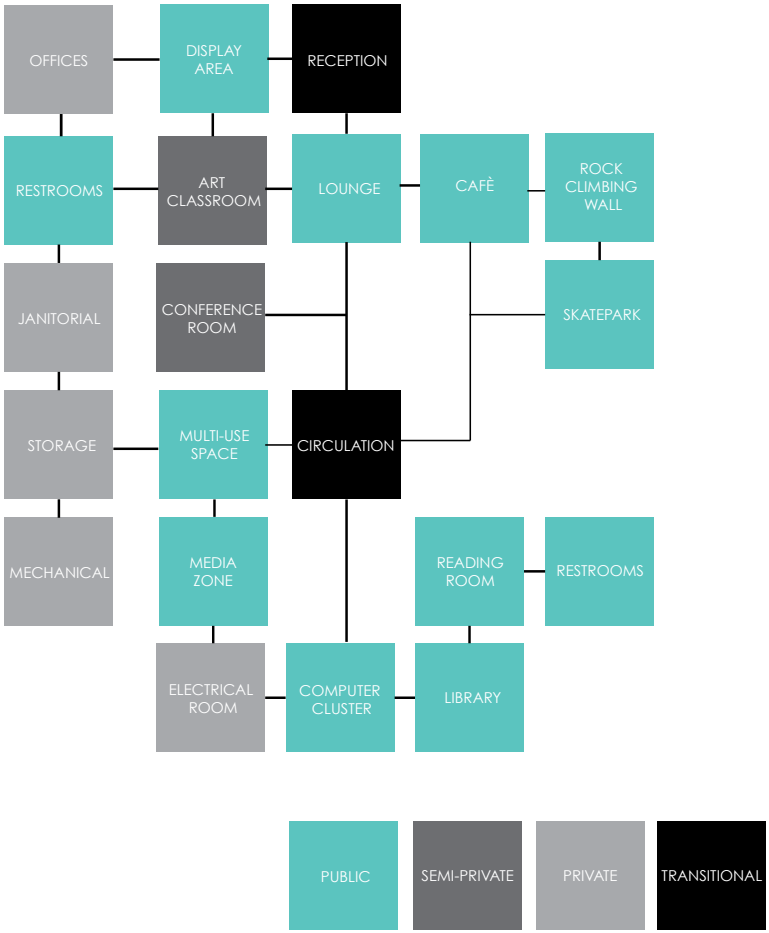
programmatic requirements

SPACE ALLOCATION

	Sq. Ft.
Art Classrooms	**1,931**
Multi-Use Space	**1,197**
Lounge & Reception	**1,357**
Rock Climbing Wall	**1,066**
Offices	**265**
Restrooms	**732**
Circulation	**1,788**
Mechanical Room	**1,000**
Total Square Feet	**9,327**



Interaction Matrix
Figure 73 K. Mueller [Graphic]



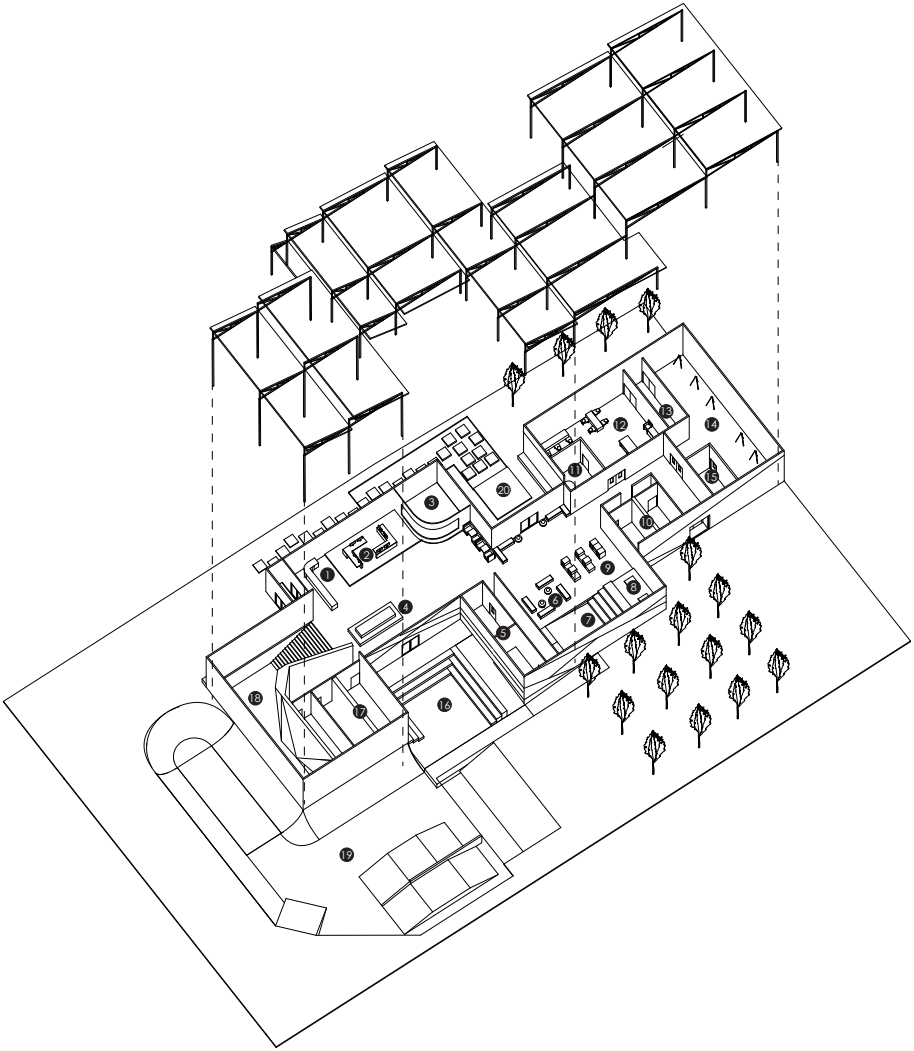
Interaction Net
Figure 74 K. Mueller [Graphic]

design

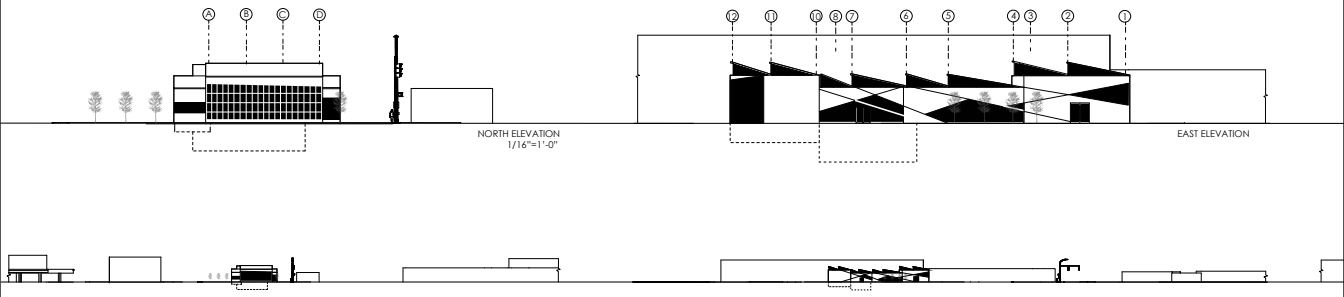
PROGRAM

The program is the most important part of my project. I had to develop a program that would appeal to teenagers based on how he or she interacts with the environment. Based on my research results, case studies, and historical context I created the program.

The program within the Lake Street Teen Center consists of three main interior spaces, and four exterior spaces. Inside the building are art classrooms, a multi-use space, rock climbing wall, and a reception and lounge. The exterior spaces consist of a skatepark, seating area, and reflection pond. Other spaces occur around the building such as a small grove of trees that one can walk in between, and a bench along a wall near the main entrance.



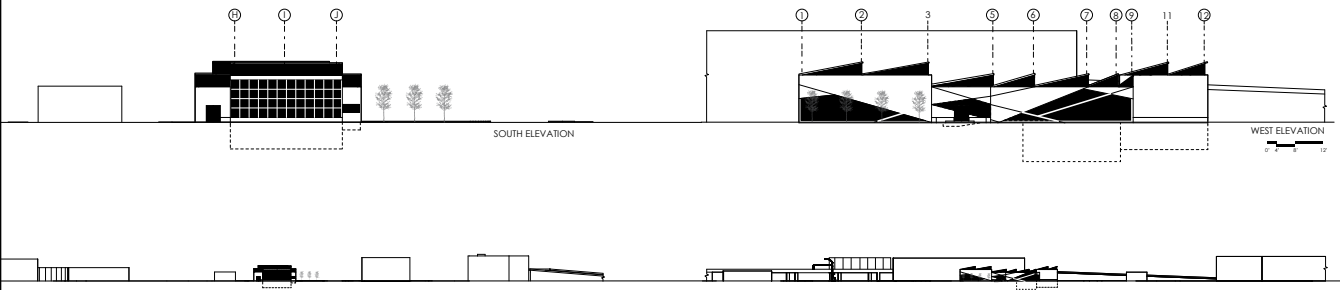
Isometric Diagram
Figure 75 K. Mueller [Graphic]



Elevations
Figure 76 K. Mueller [Graphic]

ELEVATIONS

Windows on the east and west facades of the building are informed by the clerestory roof angles. The openings were created based on what was happening within each space to ensure that there were plenty of views to the outdoors, and people outdoors could view inside.

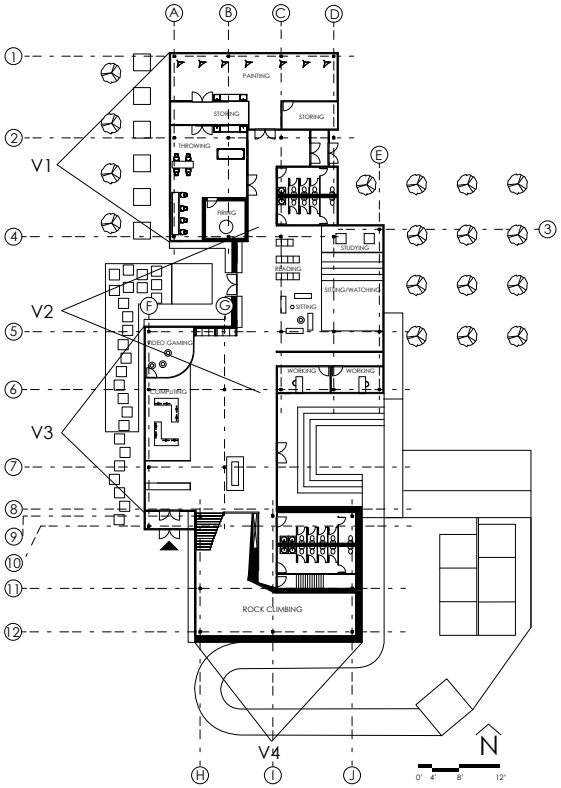

H
I
J
SOUTH ELEVATION
1
2
3
5
6
7
8
9
11
12
WEST ELEVATION

FLOORPLAN, SECTIONS & DETAILS

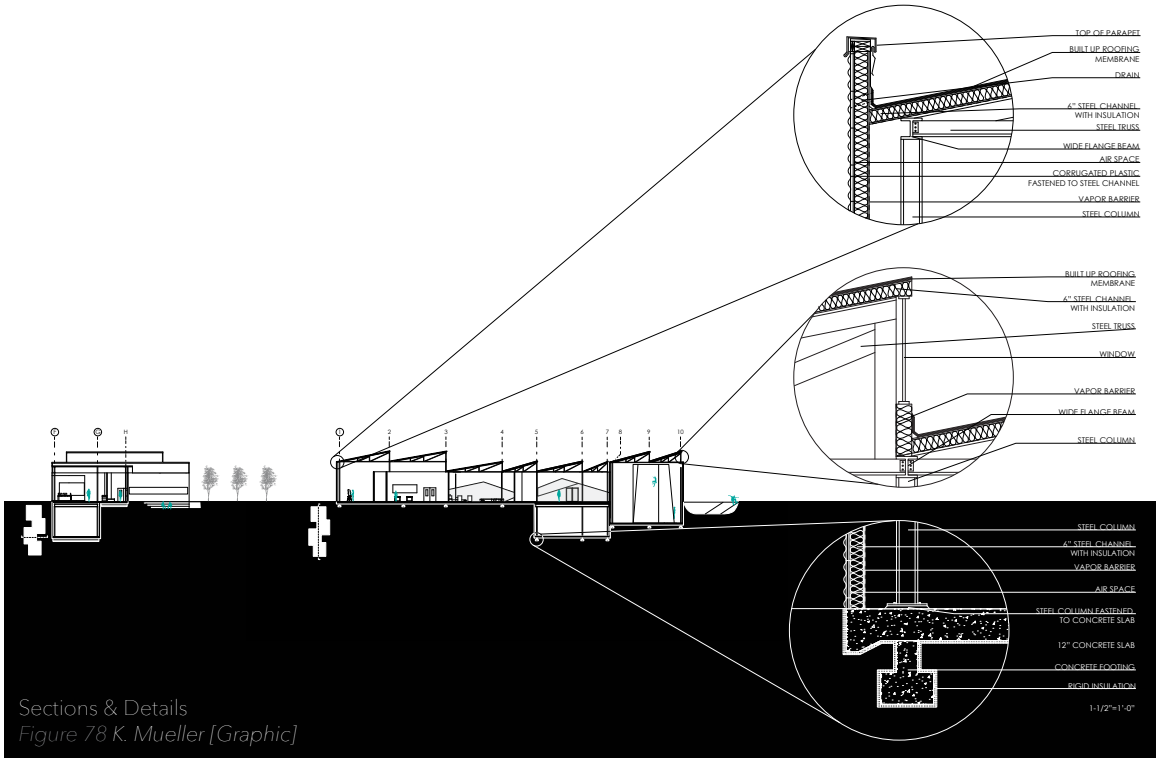
occupancy

Occupancy type, maximum occupancy and fixture amounts were calculated based on building type and square footage.

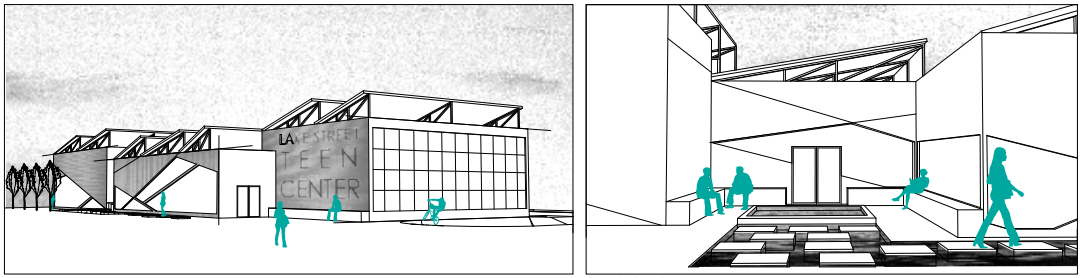
Occupancy: A-3 Assembly
Maximum Occupancy: 518 Occupants
Toilet Fixtures: Men - 5
Women - 9
Drinking Fountains: 2



Floorplan
Figure 77 K. Mueller [Graphic]



Sections & Details
Figure 78 K. Mueller [Graphic]



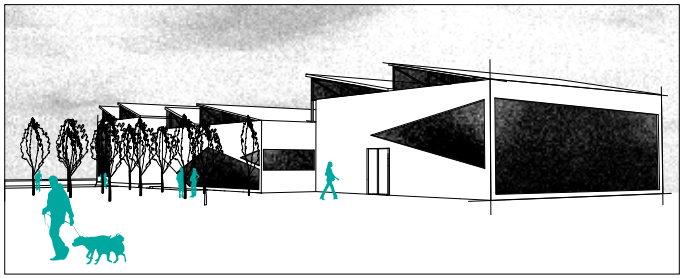
Exterior Perspectives
Figure 79 K. Mueller [Graphic]

EXTERIOR PERSPECTIVES

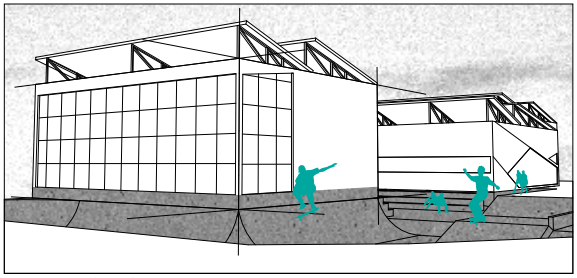
Each exterior perspective depicts one material that is found on the building or site.

Corrugated Plastic is used for the facades. The corrugation runs different directions to show distinction between the four different spaces that occur within the building. In example, the corrugation runs horizontal on the rock climbing facade, while on the facade where the lounge and reception area is located the corrugation runs vertically.

Water is found at the reflection pond and overflows into a small channel. Stepping stones in water lead one from outside of the main entrance to the reflection pond. This is an area



ART ENTRANCE
■GLASS

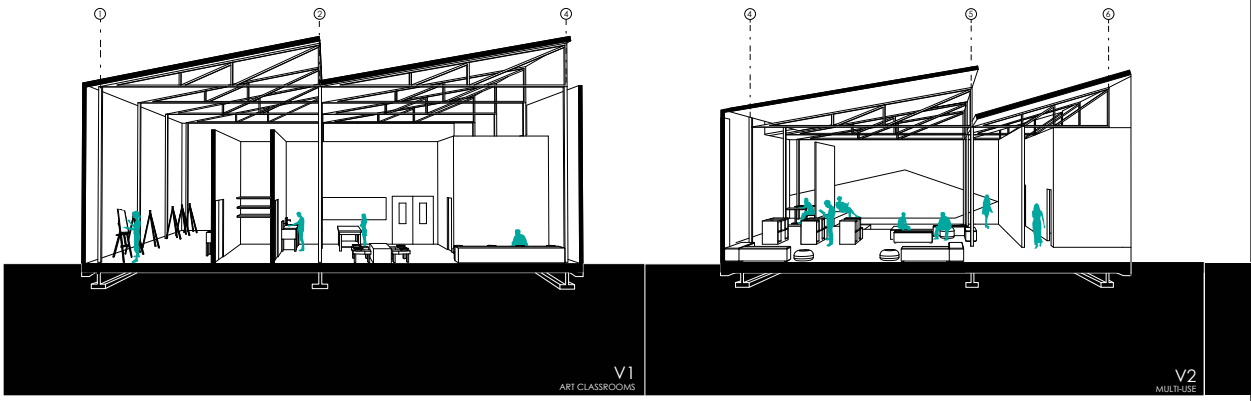


SKATEPARK AND SEATING
■CONCRETE

where one can sit in the nook of the building and read a book or chat with friends. Doors lead inside to the multi-use space.

Glass Fills the clerestory openings and uniquely shaped cut outs on the east and west facades and on the north and south facades.
Concrete is found in numerous places on the site. It is used in the skatepark as it is a very durable material for that activity.

The outdoor seating is formed concrete, and the ramp that slopes up from the seating to the grove of trees is concrete as well.



Interior Section Perspectives
Figure 80 K. Mueller [Graphic]

INTERIOR SPACES

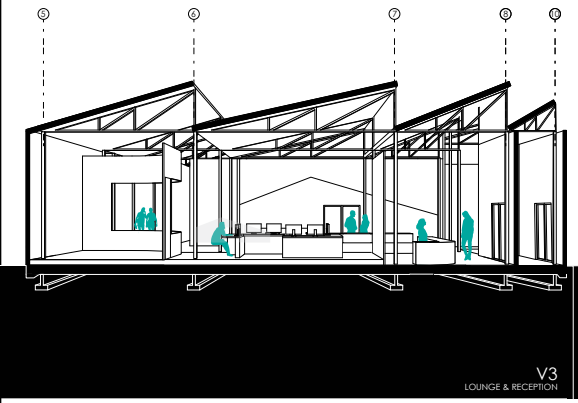
Each interior section perspective shows what occurs in each space within the building.

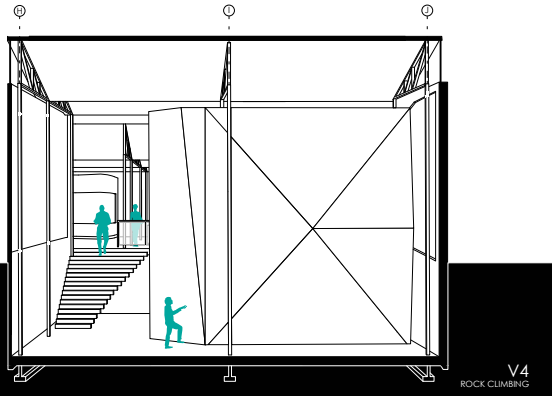
V1 Art Classrooms

There are two art classrooms in this wing of the building. To the north is the drawing and painting classroom. The drawing and painting classroom has a large curtainwall facade to allow ample northern light into the space. There is room for eight easels to fit comfortably in the classroom. To the south is the ceramics classroom. Within the classroom is a kiln room, space for a preparation table, and eight throwing wheels. The classrooms each has its own entrance but they are also linked by a storage space.

V2 - Multi-Use

Many functions occur within the multi-use space. Toward the back of the room is a bleacher that dips into the ground. The flexible space





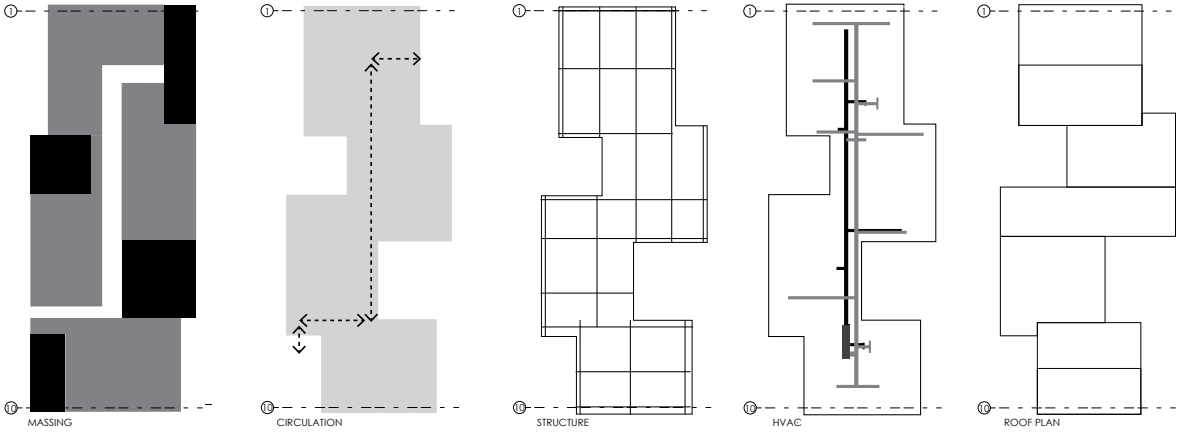
allows for casual or formal seating during small performances. Behind the bleacher is a study area divided by a glass wall. Glass provides a little more seclusion for people working on homework. Bookcases and benches fill the middle of the room. A wall separates the multi-use from offices for staff.

V3 - Lounge & Reception

This is the main entrance to the building. When entering this space one is greeting by a receptionist. Within this space are computers, a media zone for video gaming and music, elevated seating, doors to the seating outside.

V3 - Rock Climbing

Walking down a small flight of stairs off of the reception area one will find the rock climbing wall. A southern curtainwall facade allows plenty of southern light to fill the space.



Diagrams
Figure 81 K. Mueller [Graphic]

DIAGRAMS

Diagrams depict functions within the building.

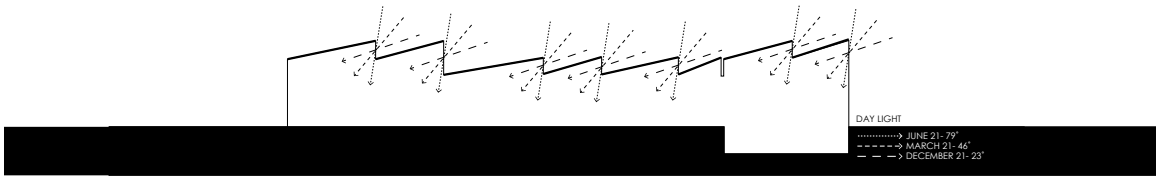
Massing: the interior spaces are gray, circulation white, and exterior spaces black.

Circulation: the circulation pattern within the building is along a "central spine". The spine makes walking through the building easier to someone unfamiliar to the building.

Structure: the structural grid spans vary from space to space. The columns occur 1 foot inside of the exterior walls.

HVAC: The supply and return travels vertically from the basement. The pipes then run horizontally with perpendicular branches that reach each space.

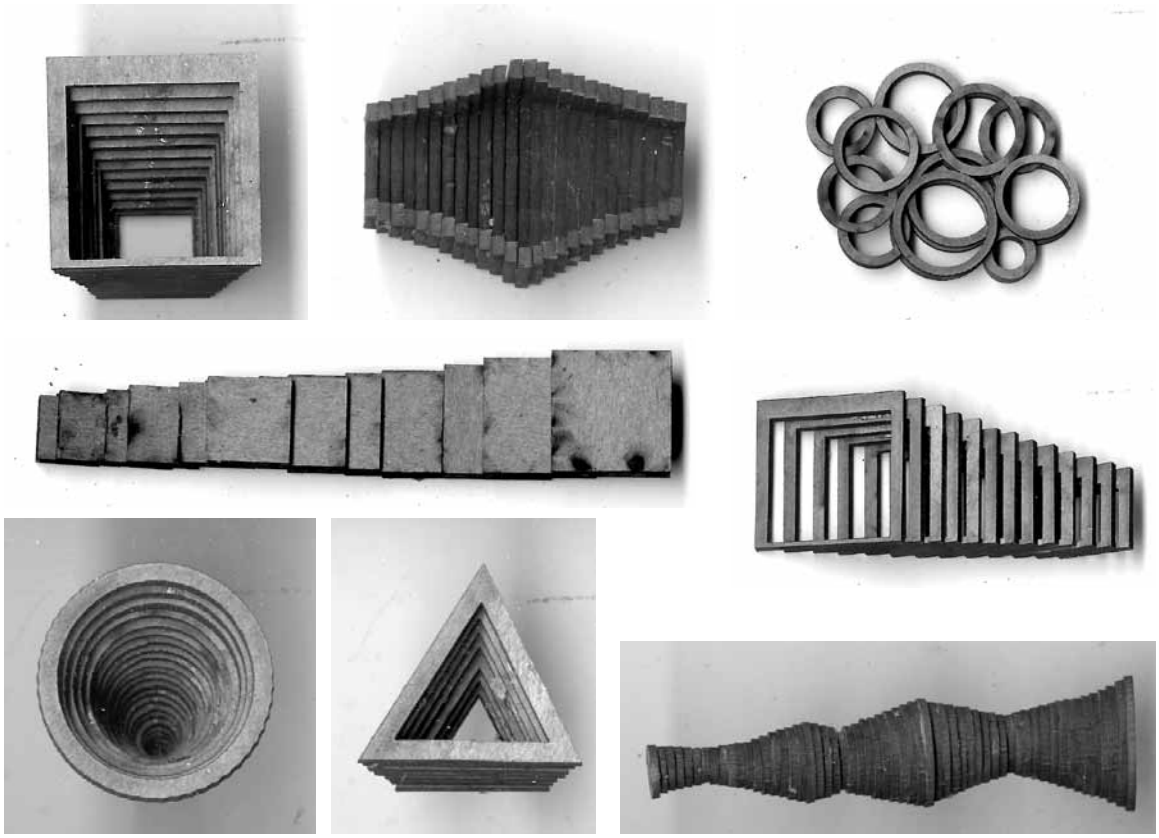
Roof Plan: roof planes cover each truss. The roof planes have a slight grade to ensure rain water does not collect.



Day Lighting Diagram
Figure 82 K. Mueller [Graphic]

Day Lighting: arrows depict how day light would penetrate each space at different times of the year.

design process

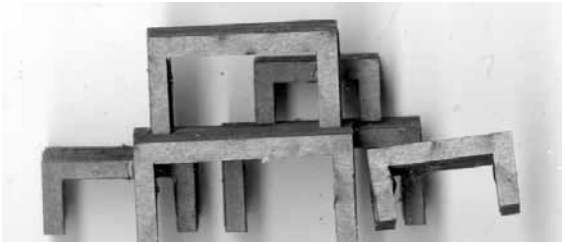


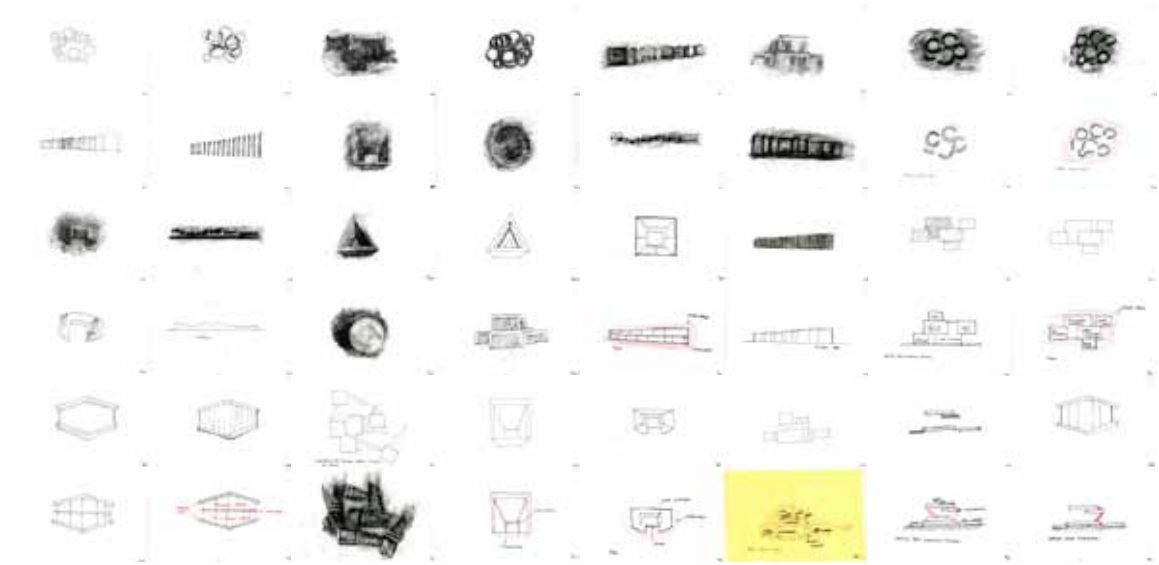
Abstract Model Scans
Figure 83 K. Mueller [Scan]

DESIGN PROCESS 1.15-1.18

abstract models

Starting with abstract models of varying shapes was the premise of design.





Abstract Model Sketches
Figure 84 K. Mueller [Sketch]

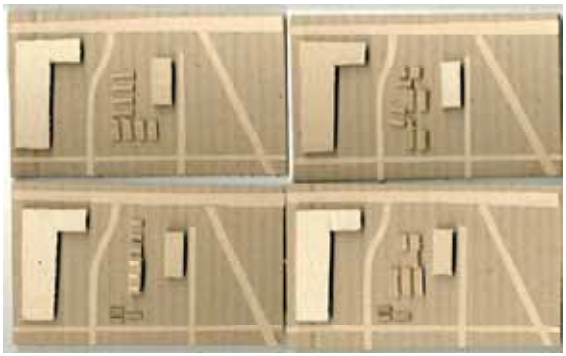
DESIGN PROCESS 1.19-1.31

sketches from abstract models

Sketches based on the abstract models were completed to do a further investigation of the models. The sketches were used for possibilities of relationship between spaces and program layout.

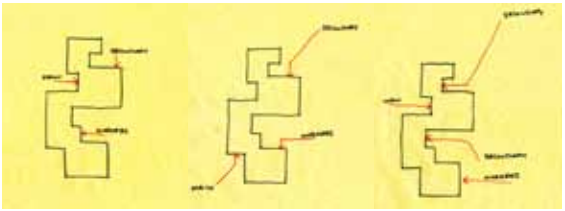
building placement models

Building placement models were created to get an idea of how the building could be placed on the site. Model 2 was chosen to be developed further.

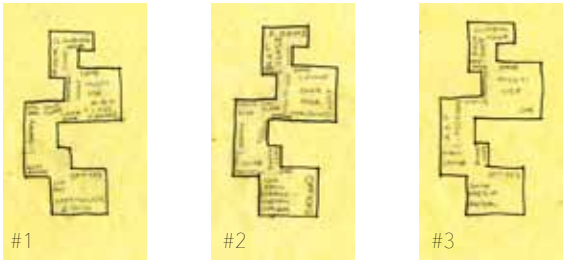


Building Placement Models
Figure 85 K. Mueller [Scan]

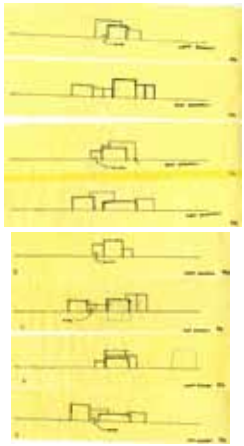
Site Circulation Study Diagrams
Figure 86 K. Mueller [Sketch]



Entrance Options
Figure 87 K. Mueller [Sketch]



Program Options
Figure 88 K. Mueller [Sketch]

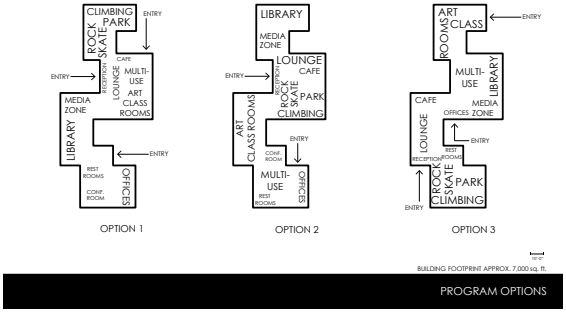


Elevation Options
Figure 89 K. Mueller [Sketch]

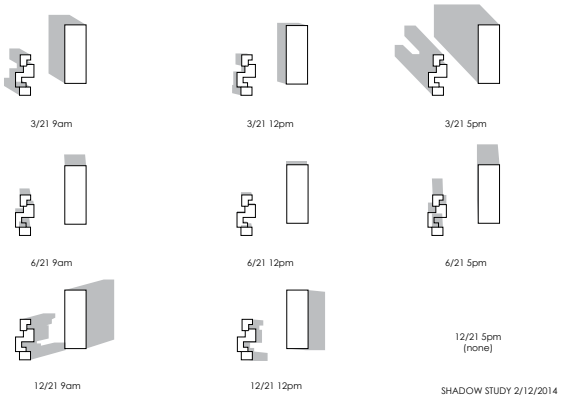
DESIGN PROCESS 2.01-2.08

site circulation study, entrance options & program options

The site circulation study helps inform how people are interacting with the site via walking, biking, or driving. After studying site circulation three different options were created based on entrance location. Program options were created based on entrance locations, and elevations based on the program options.



Refined Program Options
Figure 90 K. Mueller [Graphic]



Shadow Study
Figure 91 K. Mueller [Graphic]

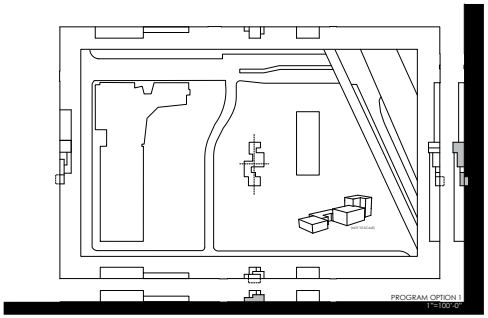
DESIGN PROCESS 2.09-2.15

program options revised

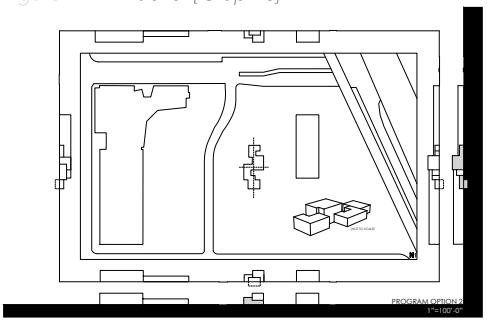
Program options were revised and three clear options were created. From the three options, option three was chosen to be developed further.

shadow study

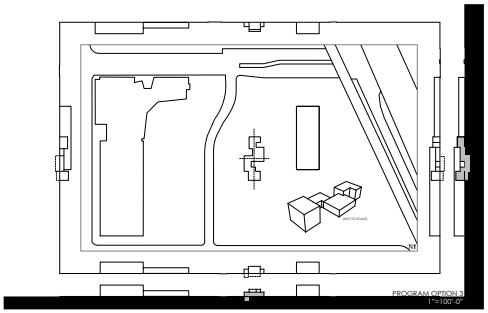
Based on the three options and roof heights, shadow studies were conducted to examine



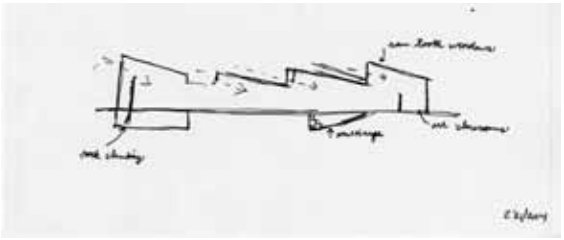
Refined Program Elevation Option 1
Figure 92 K. Mueller [Graphic]



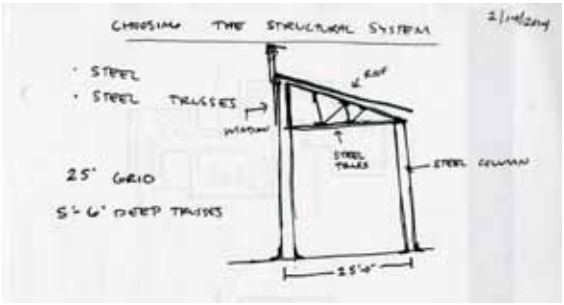
Refined Program Elevation Option 2
Figure 93 K. Mueller [Graphic]



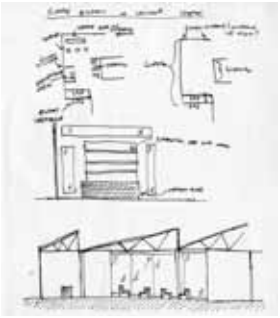
Refined Program Elevation Option 3
Figure 94 K. Mueller [Graphic]



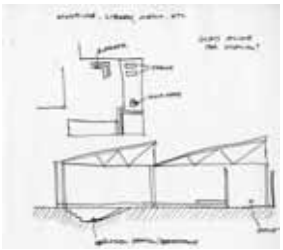
Preliminary Structure Section
Figure 95 K. Mueller [Sketch]



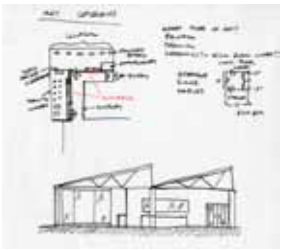
Preliminary Structure Detail
Figure 96 K. Mueller [Sketch]



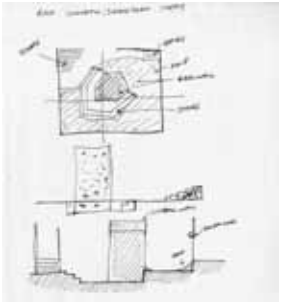
Preliminary Entry
Figure 97 K. Mueller [Sketch]



Preliminary Multi-Use Space
Figure 98 K. Mueller [Sketch]



Preliminary Art Classrooms
Figure 99 K. Mueller [Sketch]

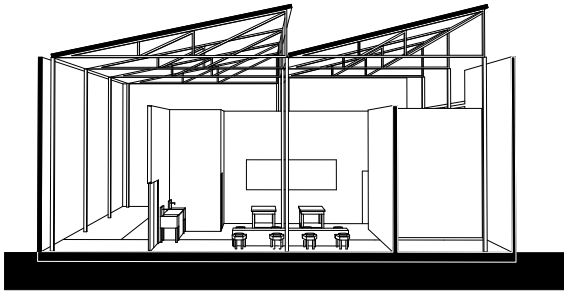


Preliminary Rock Climbing
Figure 100 K. Mueller [Sketch]

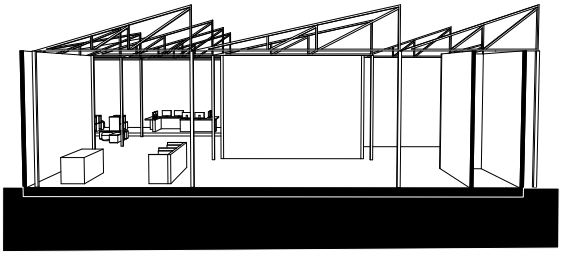
DESIGN PROCESS 2.16-2.22

structure design & interior space design

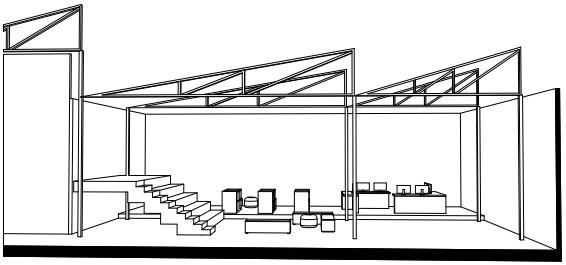
After developing an idea where the spaces were going to be within the building, the structural system was developed. The structural system consists of steel columns, beams, and trusses. Sketches for ideas of the interior spaces were developed.



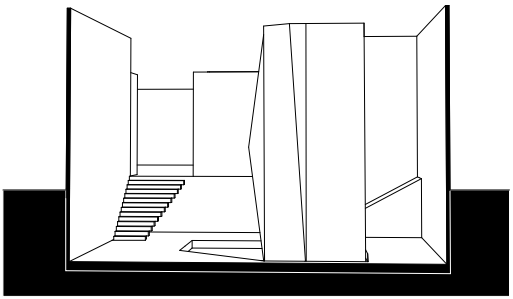
Art Classrooms
Figure 101 K. Mueller [Graphic]



Entry Lounge
Figure 102 K. Mueller [Graphic]



Multi-Use Space
Figure 103 K. Mueller [Graphic]

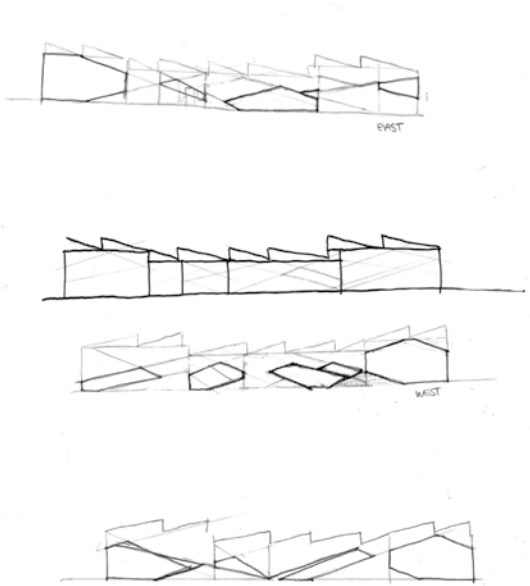


Rock Climbing Wall
Figure 104 K. Mueller [Graphic]

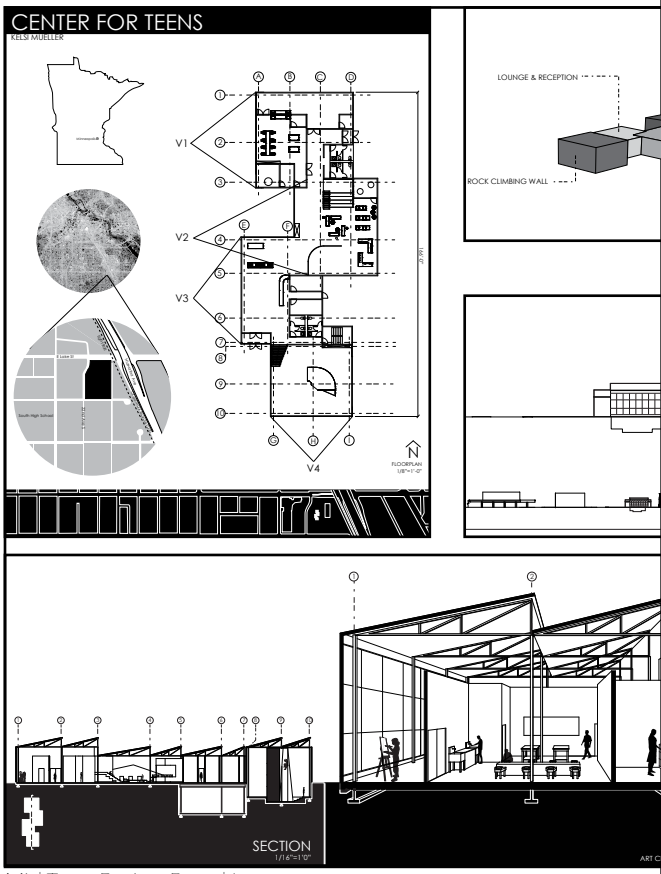
DESIGN PROCESS 2.23-3.01

digital model development

The digital model was developed in Rhino 3D and views were created on the interior based on program function: Art classrooms, multi-use space, entry lounge, and rock climbing.



Window Placement
Figure 105 K. Mueller [Sketch]

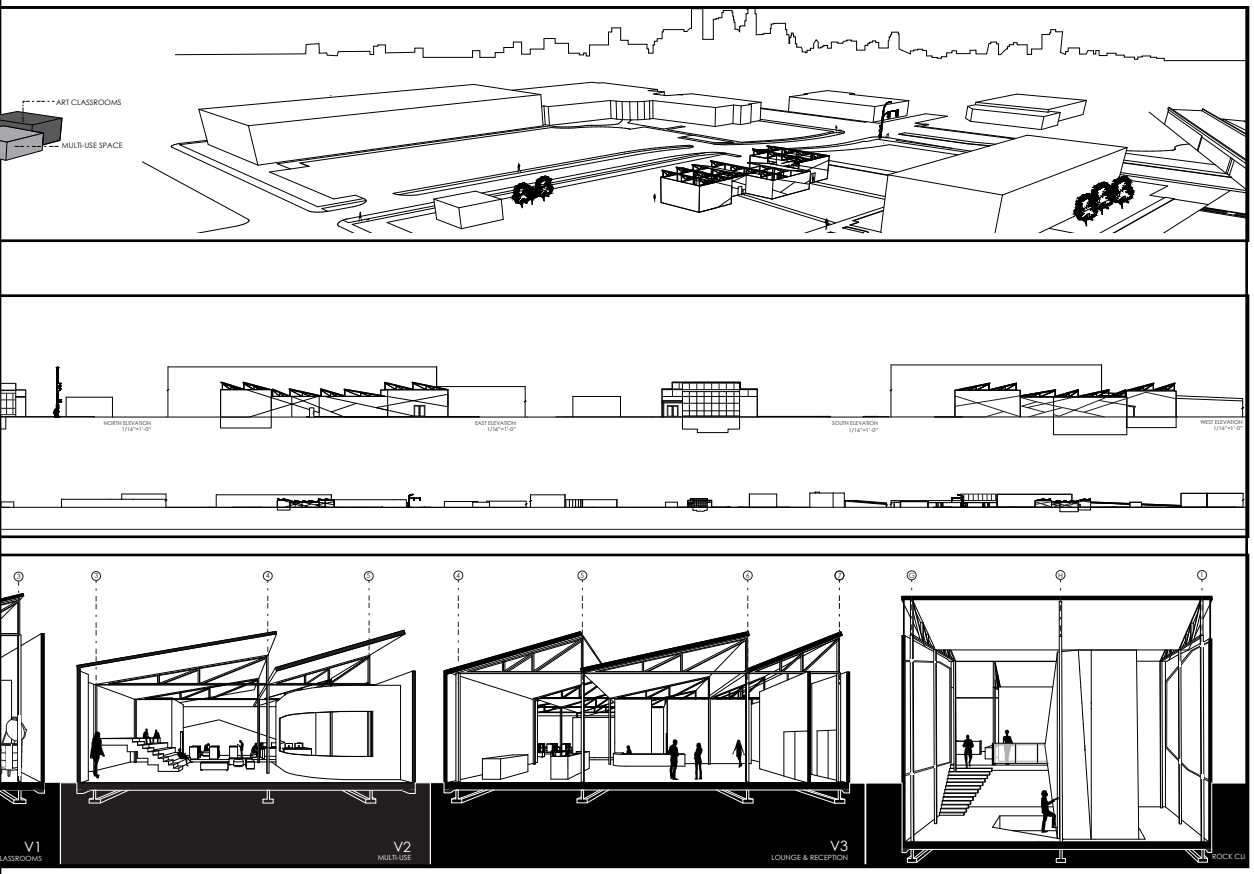


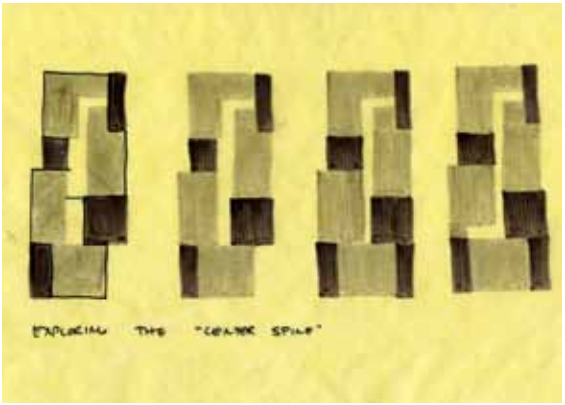
Mid-Term Review Board Layout
Figure 106 K. Mueller [Graphic]

DESIGN PROCESS 3.02-3.15

window placement & mid-term review

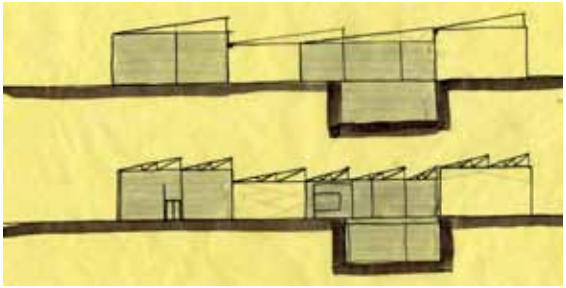
The design of the windows on the facade was developed based on the pitches of the roof. The unique design creates openings in the facade that create views to the outdoors and vice versa. The presentation layout for mid-term review is found on the next two pages


ART CLASSROOMS
MULTI-USE SPACE
NORTH ELEVATION
1/16"=1'-0"
EAST ELEVATION
1/16"=1'-0"
SOUTH ELEVATION
1/16"=1'-0"
WEST ELEVATION
1/16"=1'-0"
V1
V2
MULTI-USE
V3
LOUNGE & RECEPTION

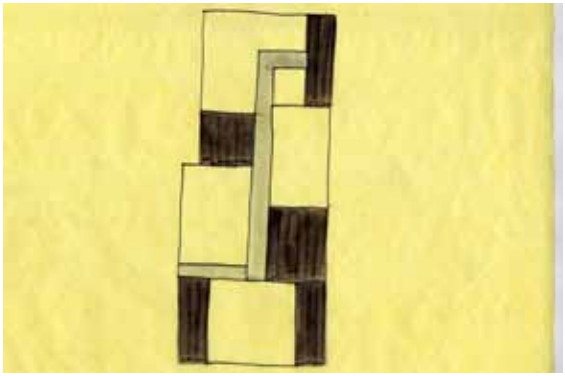


Center Spine Exploration
Figure 107 K. Mueller [Sketch]

Floorplan Revisions
Figure 108 K. Mueller [Sketch]



Roof Plane Options
Figure 109 K. Mueller [Sketch]

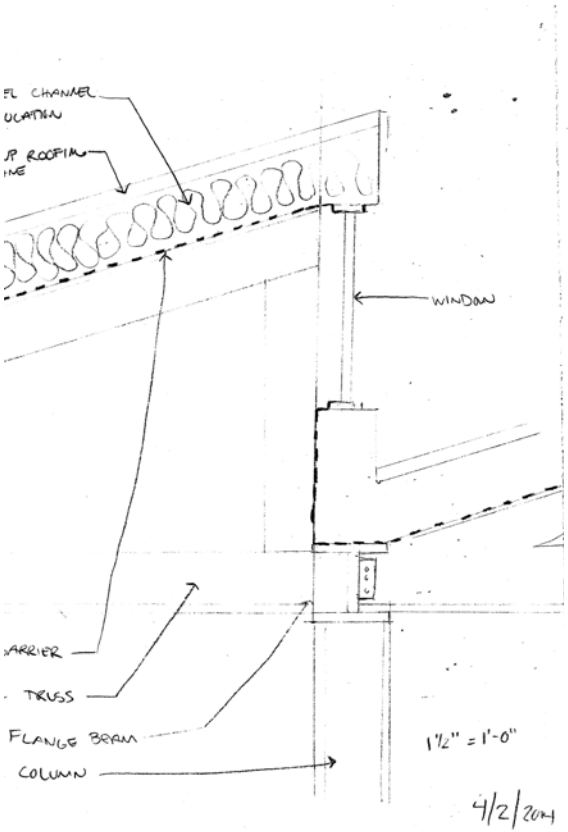


Massing
Figure 110 K. Mueller [Sketch]

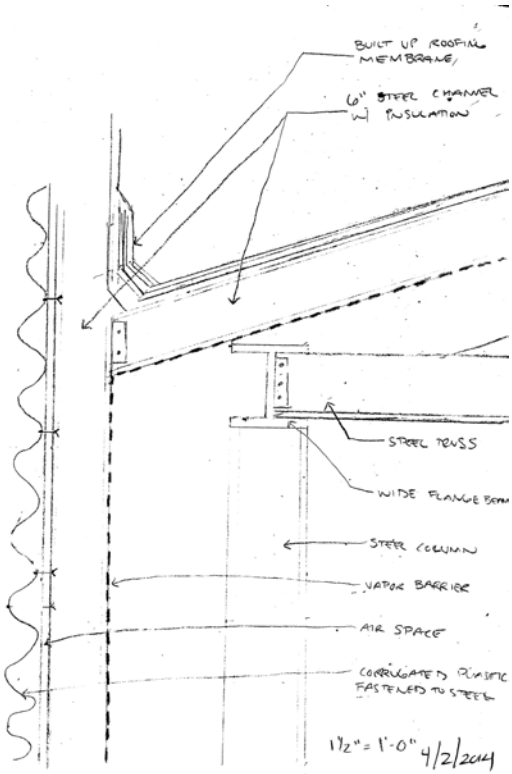
DESIGN PROCESS 3.24-3.29

design modifications

After mid-term reviews changes were made to the project. The floorplan was "cleaned-up" and revealed a center circulation spine running through the building. Different options regarding roof planes was explored but the original design was kept.



Window Detail
Figure 111 K. Mueller [Sketch]



Roof Detail
Figure 112 K. Mueller [Sketch]

DESIGN PROCESS 3.30-4.5

details

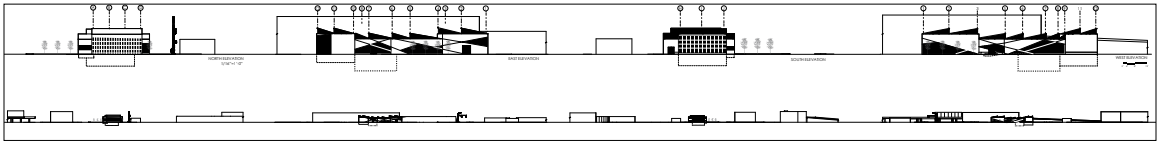
Details were drawn up to gain a better understanding of how the materials fit together.

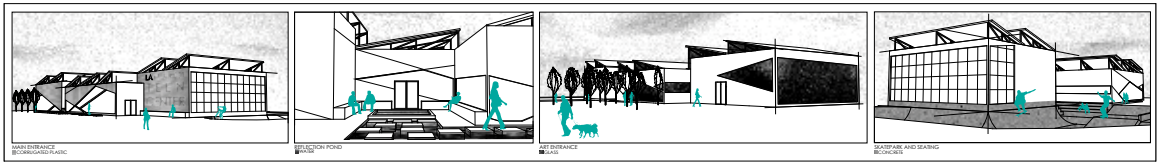
final presentation

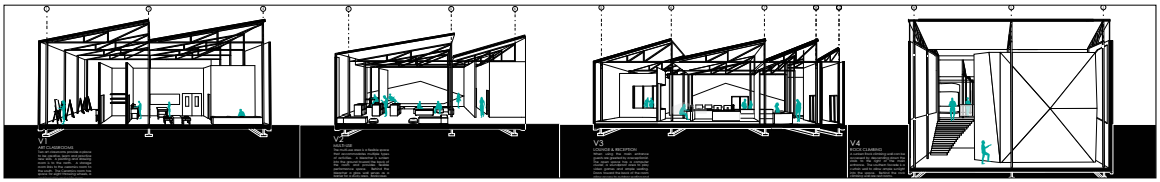
LAKE STREET TEEN CENTER

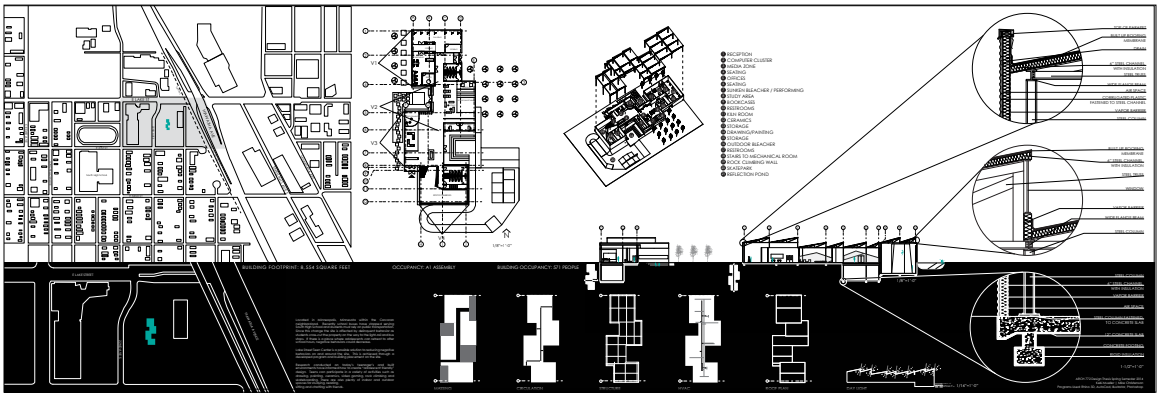
MINNEAPOLIS, MINNESOTA

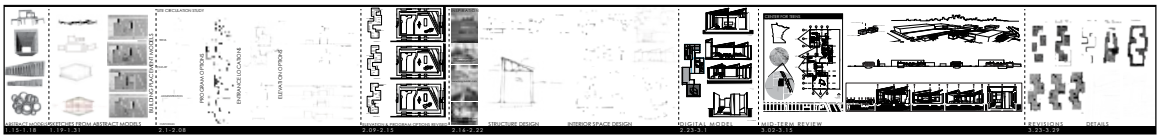
How can design impact a place susceptible to delinquent behavior?



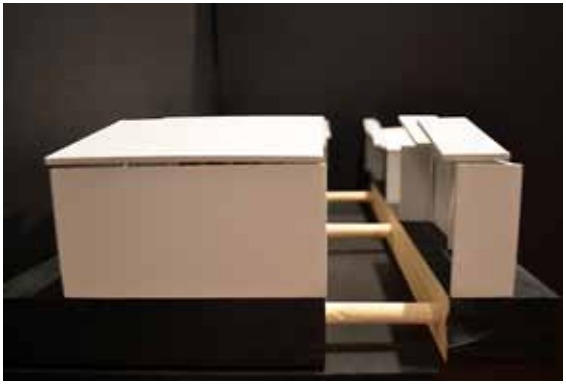




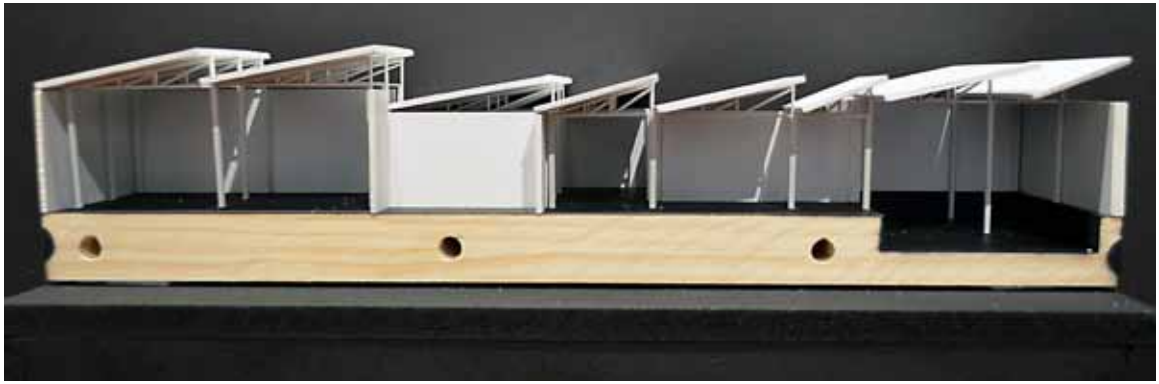




Section Model
Figure 114 K. Mueller [Photo]

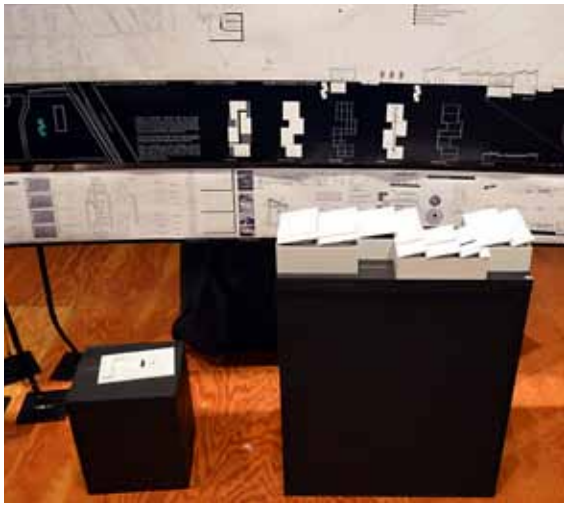


Section Model
Figure 115 K. Mueller [Photo]

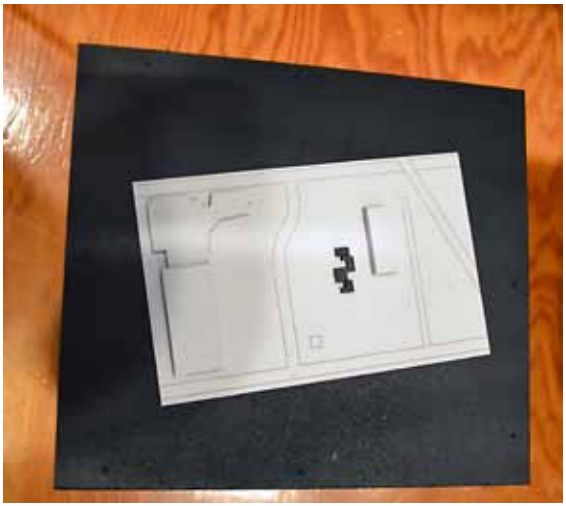


Section Model
Figure 116 K. Mueller [Photo]

Final Presentation Board Layout (Left)
Figure 113 K. Mueller [Graphic]

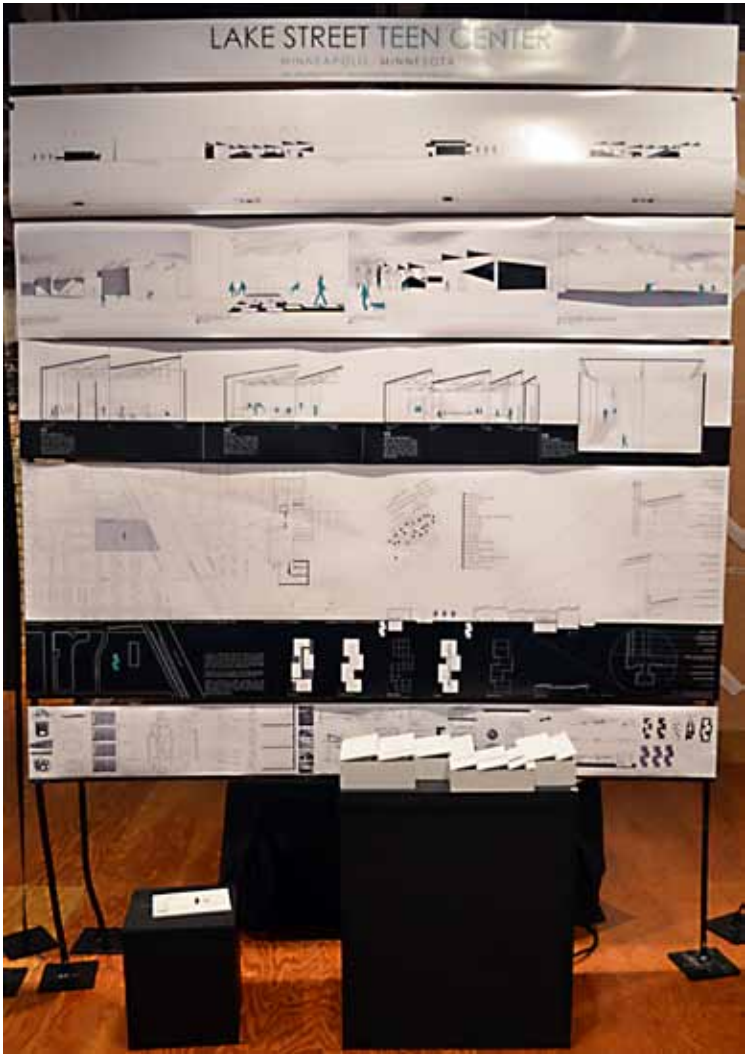


Final Presentation Setup Models
Figure 117 K. Mueller [Photo]



Building Placement Model
Figure 118 K. Mueller [Photo]

Section Model
Figure 119 K. Mueller [Photo]



Final Presentation Setup
Figure 120 K. Mueller [Photo]

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Photo K. Mueller

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"Youth is not an age thing. It's a quality. Once you've had it, you'll never lose it."

-Frank Lloyd Wright